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The Journal of the Fire Protection Profession

APRIL 3, 1929

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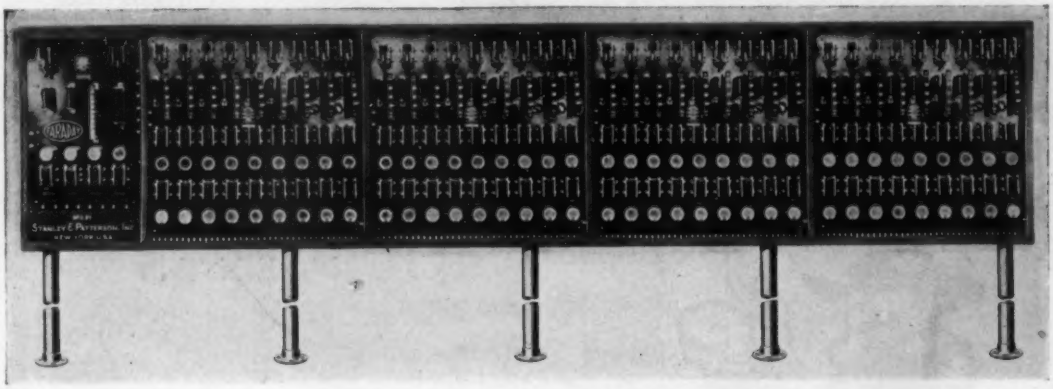

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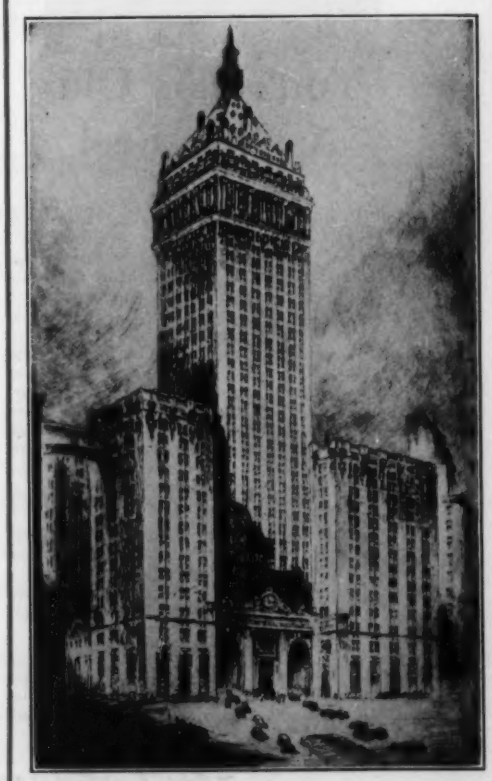

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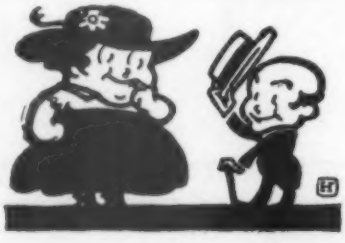

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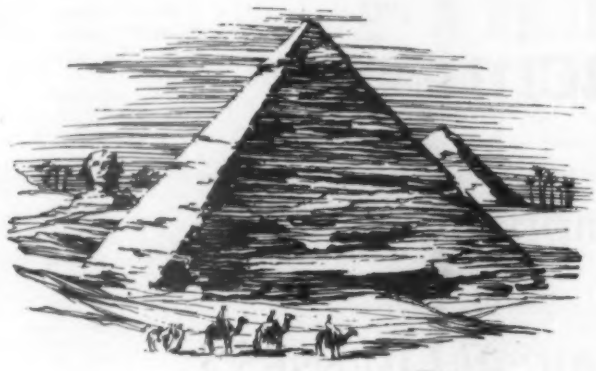

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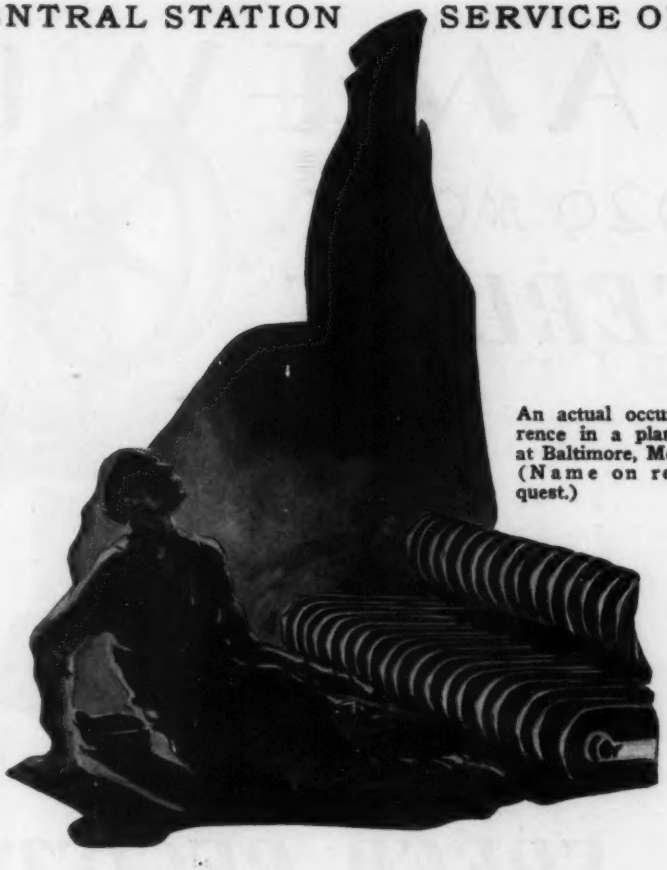

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The Journal of the Fire Protection Profession

VOLUME LXXXII APRIL 3, 1929 NUMBER 7

The Place of Pumpers in Fire Fighting

Advantage of Use as Against Raising Pressure at Water Works Pumping Station—Requirements for Fire Streams—Test of Pumpers

By CLARENCE GOLDSMITH, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago.

THE need for pumpers as an equipment of the Fire Department, not only for large cities, but also for the protection of smaller municipalities, is set forth in the following paper. Much useful information on the subject has been condensed in small space by Mr. Goldsmith.

The furnishing of water in quantities required for fire extinguishment in built-up communities in the United States is the function of the water works system. In some fifteen cities separate fire main systems have been installed either because the enormous concentration of values warranted the additional expense of this special protection or because it was not economically feasible to secure the desired adequacy and reliability by strengthening and making additions to the existing domestic water systems.

Clarence Goldsmith

It is distinctly a function of the fire department to apply the extinguishing medium, whether it be chemicals, inert gas, or water on the fire and thus extinguish it. This department must, necessarily, be equipped with requisite devices and mechanical appliances to do this type of work.

During the past century, in which period water systems were developed to supply domestic supply and fire protection, many such systems were so designed that pressures sufficient to develop direct hydrant hose streams were provided. These pressures were constantly maintained on the system when the topography was such that a distributing reservoir could be built at a suitable elevation, and, in other cities not so favorably situated, the pressure was raised at time of fire by direct pumpage. In the larger cities this was more or less impractical and the steam fire engine was developed and used by the fire department to secure sufficient pressure.

Requirements for Fire Streams

In order that our problem may be clearly before us, the requirements for the various kinds and sizes of fire streams needed under different conditions met in practice will now be reviewed.

At a given pressure a good fire stream is one, which, at limit named, would enter through a window and barely strike ceiling with force to spatter well, and which at limit named had not lost continuity of section by dividing into a shower of spray, and which at this limit shoots nine-tenths of the whole body of water inside a 15-inch circle and three-fourths of it through a 10-inch circle.

A common formula used to calculate the height of a fire stream is $H = \sqrt{240\ p - p^2} - 1{,}900 - 15$ where H = height in feet and p = pressure in pounds at the base of the playpipe. (For 50 pounds or less, subtract 1 from 15 for each ⅛-inch increase in nozzle diameter above ¾-inch. For pressures above 50 pounds, subtract 2 from 15 for each ⅛-inch increase in diameter above ¾-inch.) This formula is applicable only to fire streams having nozzle pressures up to 120 pounds.

Vertical Reach of Effective Fire Stream

From a practical fire-fighting standpoint the maximum vertical reach of an effective fire stream is 100 feet. For instance, the vertical reach of a stream from a 1½-inch nozzle at a pressure of 50 pounds is 79 feet and at 60 pounds is 87 feet, which shows an increase in elevation of 8 feet for an increment of 10 pounds in pressure, but at a pressure of 80 pounds the vertical reach is 96 feet, and at 90 pounds, 100 feet, showing an increase of only 4 feet for an increment of 10 pounds pressure. The maximum elevation of the effective stream is reached at about 130 pounds for higher pressures produce such velocities that the friction of the air tears the stream as soon as it emerges from the nozzle tip.

Two and one-half inch lines with 1⅛-inch shut-off noz-

"DURING the past ten years the gasoline, engine-driven pumper has reached a stage of development where there is little or no question of its reliability. Fire chiefs and water works officials realized that the pressure needed to fight fires could be much more economically developed by utilizing pumpers than by raising fire pressures on water distribution systems."

zles are ordinarily used for inside hand lines and pressures from 25 to 30 pounds deliver fair streams; from 35 to 45 pounds, good streams; and from 50 to 60 pounds, excellent streams. Such lines can be easily held and directed for the pull-back, or reaction, if the line is not excessive. At 45 pounds pressure the pull-back of a 1⅛-inch nozzle is 95 pounds. The pull-back of any hose line, when the nozzle pressure and the diameter are known, can be calculated as follows: Square the diameter of the nozzle, multiply the result by the pressure in pounds, and this result by 1½.

One and a quarter inch and 1½-inch tips usually used on siamesed 2½-inch lines or single 3-inch lines are generally directed from outside of buildings into the building on fire or from the window or roof of a building on to a building which is afire. In any case, such lines are ordinarily fixed in position and are supplied with holders or jacks to take up the reaction of lines so that they can be easily held and directed on the fire with safety. Pressures from 65 to 80 pounds are needed on such lines. One and three-quarter inch, 2-inch, and 2¼-inch streams are ordinarily supplied by deluge sets, wagon pipes, deck pipes, monitor nozzles or water towers, and such streams may well have from 90 to 100 pounds pressure at the nozzle.

The "Manual of Water Works Prectice" of the American Water Works Association states that a normal static pressure of from 60 to 75 pounds per square inch on a water distribution system is now considered desirable. It presents the following advantages:

(a) It will supply ordinary consumption for buildings up to 10 stories in height.
(b) Gives effective sprinkler service in buildings of 4 and 5 stories.
(c) Permits direct hydrant service for a few hand hose streams at the lower elevations, insuring quicker operation by the fire department.
(d) Allows a lower margin of fluctuation in lower pressures in meeting sudden drafts, and offsets losses due to partial clogging or excessive length of service pipes.

It is not feasible to carry normal domestic pressures or raised pressures at time of fire so that they will be sufficient to develop the hose streams required to fight a fire of any considerable proportions. Other means must be employed to develop the required fire streams.

The "Twelve Hour Test"

Up until 1910 the steam fire engine was utilized by municipal fire departments to raise pressures to deliver fire streams. At this time the development of the gasoline, engine-driven, automobile pumper started. At the Thirty-ninth Annual Convention of the International Association of Fire Engineers, held at Milwaukee in 1911, it was voted to appoint a committee to formulate a definite plan for testing motor pumpers. This committee collaborated with the engineers of the National Board of Fire Underwriters and adopted what was then known as the "Endurance Test," but what is now commonly called the "Twelve-hour Test." This test consists of operating the pumper at capacity against 120 pounds net pressure for six hours, at one-half capacity against 200 pounds pressure for three hours, and at one-third capacity at 250 pounds pressure for three hours. Considerable credit is due this committee for its decision, for during the eighteen years which have intervened since that time and during which motor apparatus has been brought to its present degree of perfection, it has not been considered necessary or desirable to modify the requirements of this test.

The "Underwriters' Test"

Most cities include in their contract and specifications that a pumper shall pass a three-hour acceptance test which is commonly known as the "Underwriters' Test." This test consists of operating the pumper at its rated capacity against 120 pounds net pressure for two hours, at one-half its rated capacity against 200 pounds net pressure for 30 minutes, and at one-third its rated capacity against 250 pounds net pressure for 30 minutes. Such tests are made at the request of an official of the city purchasing the apparatus by either engineering representatives of the National Board or of the stock fire insurance rating bureau having jurisdiction; no charge is made for this service.

These tests have had a very beneficial influence on the development of the motor pumper and there are few manufacturers in the field today who do not call for the 12-hour test on new types and designs of pumpers which they manufacture or assemble, and they specify the 3-hour acceptance test in their contract.

Discourage Raising of Water Works Pressure

During the past ten years the gasoline, engine-driven pumper has reached a stage of development where there is little or no question of its reliability. Fire chiefs and water works officials realized that the pressures needed to fight fires could be much more economically developed by utilizing pumpers than by raising fire pressures on water distribution systems and, therefore, the practice of raising pressures has been discontinued on many systems, thus relieving water works of a considerable expense and responsibility besides cutting down the probability of the failure of the distribution system due to raising pressures.

Fewer Hydrants Needed Where Pumpers are Used

In order to concentrate the required quantities of water when direct hydrant hose streams are used, it is necessary to have a much closer spacing of hydrants than is needed when pumpers are used. For instance, where a fire flow of 3,000 gallons is required, a hydrant must be provided for each 70,000 square feet of area in order that two-thirds of the quantity can be concentrated on the building or griup of buildings requiring protection. If pumpers are used, only one hydrant to each 100,000 square feet of area is needed in order to concentrate the same quantity of water.

Pumpers are provided with suction hose and reducers so that suction may be taken either from a 2½-inch hydrant outlets or 4½-inch steamer outlets; however, in order to supply a 750-gallon pumper, which is the ordinary capacity in service, hydrants should have 4½-inch outlets with National Standard thread. When pumpers are purchased and put in service in cities which have been depending on hose streams and have hydrants with only two 2½-inch hose outlets, if it is desired to operate a pumper up to its capacity, it is necessary to provide the pump suction with a wye connection so that a 2½-inch suction can be connected to each 2½-inch outlet.

Hydrant Friction Loss Should Not Be Excessive

It is important that hydrants be of such design that the friction loss in them is not excessive. They should be able to deliver 600 gallons a minute with a loss of not more than 2½ pounds in the hydrant, and a total loss of not more than 5 pounds between the street main and the outlet. The importance of keeping the friction loss in a hydrant to a minimum is almost of as much importance when pumpers are used as when direct hydrant hose streams are used.

The pumper's capacity, if of proper design, is limited by the power which the gasoline engine can develop. In actual operation at large fires where a number of pumpers are required, the pressure at many of the pumpers, particularly those which are at a considerable distance from the fire, should be in the neighborhood of 200 pounds; therefore, it will readily be seen that if the pressure on the suction side of the pump is reduced to zero, the capacity of the pumper is reduced one-half, whereas, if a pressure of say 50 pounds can be maintained from the water distribution system on the suction side of the pump, the capacity is reduced only one-third.

In cities which are supplied by domestic water systems which are able to deliver the full fire flow at 75 pounds pressure, it is necessary to have pumper capacity to deliver a certain proportion of this flow dependent upon the height of buildings in the district to be protected. In the larger cities where one-half the buildings are four stories or higher, the pumper capacity should be equivalent to 30 per cent of the total fire flow.

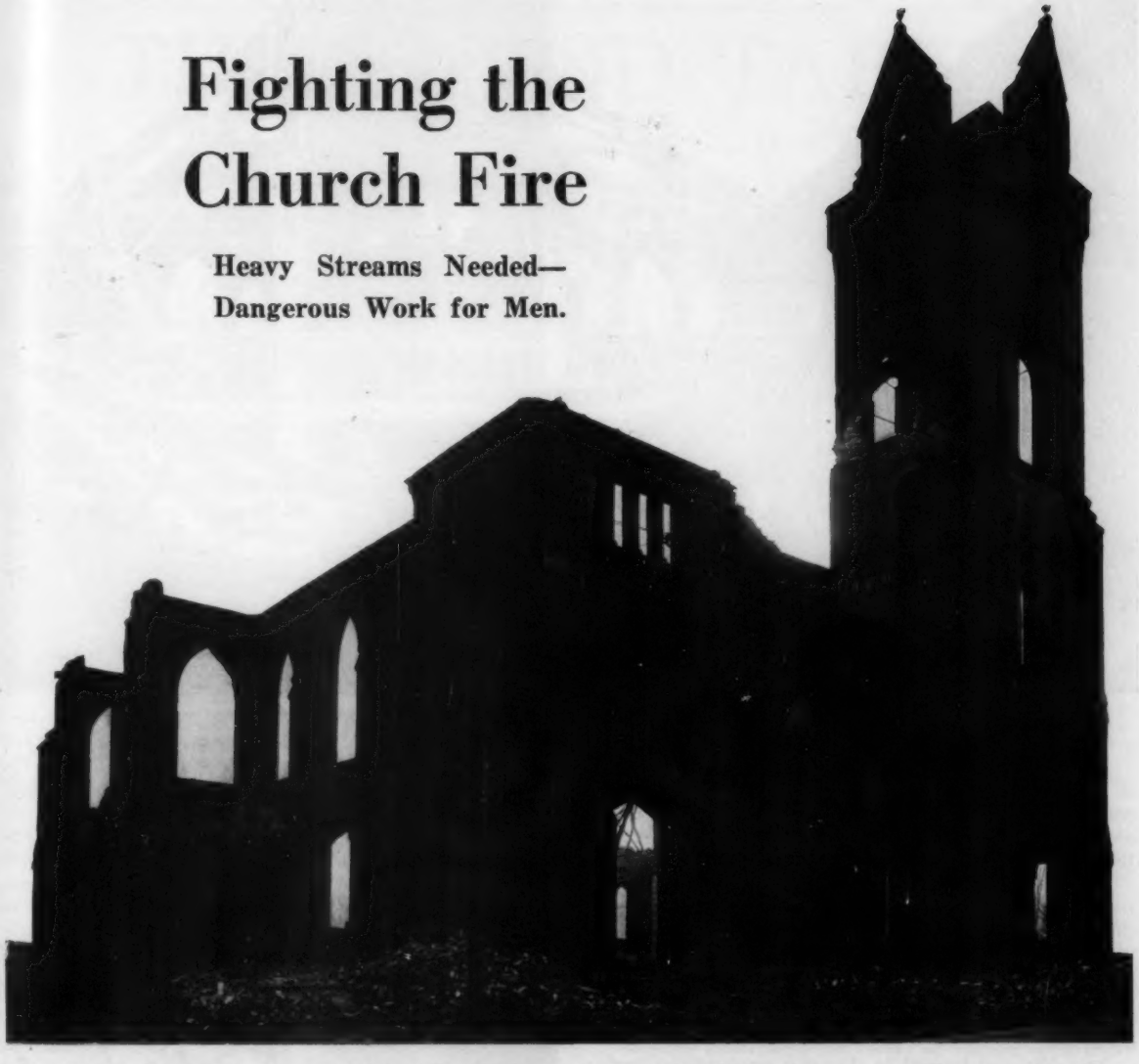
Actual Operation of Fire Engine Company

The actual operation of an engine company, equipped with a pumper, in getting into action at a fire should be as follows, when ayailable hydrant pressures are above 50 pounds: Assuming that the pumper is equipped with a large chemical tank of a water tank with a booster pump and that this company is the first-due to arrive, a 2½-inch line is connected to a 2½-inch hydrant outlet and stretched up to the building which is on fire. If, in the judgment of the commanding officer, it is believed the fire can be handled with the chemical line, the chemical line should be stretched into the building if entrance has been made. If the fire is controlled with a chemical line, the 2½-inch line is picked up and loaded. If the fire is of such proportions that it is held in check by the chemical line, but not completely extinguished, the 2½-inch line is connected to a 2½-inch connection to the chemical tank and the 2½-inch line is charged with water which is under sufficient pressure to be delivered from the nozzle at the chemical hose. And again, if the fire is of such proportion that it cannot be held in check by the chemical line, the company pulls off several sections of 2½-inch hose, attaches a 1⅛-inch shut-off nozzle, and the com-

(*Continued on page* 294)

Fighting the Church Fire

Heavy Streams Needed—Dangerous Work for Men.



Most Church Blazes Result in Total Loss; the Roof Usually Falls Early in the Fire and the Flames are thus given Opportunity to Quickly Complete their Work.

IT is estimated on the basis of reliable figures, that there is an average of between five and six church fires per day in this country. The loss last year alone totalled in the neighborhood of $10,000,000.

While it is not the object of this article to enter into a discussion of the causes of such fires, nor to offer suggestions for preventing them, nevertheless it will be of interest to note that defective or improperly operated heating equipment is responsible for the largest number of fires.

During winter weather churches as a rule are used only on Sundays and are permitted to go the balance of the week without heat. Then when Saturday night returns, the sexton gets busy and forces the heating system in order that the church building may be properly warmed by Sunday morning. The result is an unusual number of fires from this cause.

Defective chimneys and flues also are credited with a large proportion of church building fires.

Construction Favors Fast Extension

The construction usually employed in church buildings is of such a type as to favor fast spread of fire, once it gets a start. Concealed spaces between plaster and masonry on walls as well as blind attics, to say nothing of the highly inflammable construction in connection with the organ, make it extremely difficult for the department to do quick and effective work. Where hot air pipes are present, and they are found in a great number of churches, they aid in spreading fire, originating in the furnace room, throughout the entire building.

Even the decorations in the average church are highly inflammable, and, due to the great interior height and area of the average church building, these decorations, once they take fire, constitute quite a difficult problem for the department to handle.

A typical church fire, starting in the basement, spreads through the heating pipes up into the main auditorium as well as to the rooms in the rear of the pipe organ, and even to the organ gallery itself. The travel of fire, in the presence of large open areas, is fast, and usually by the time the fire is discovered the auditorium is well involved. The fire also gets in behind the partitions and rises to the blind attic where it spreads in

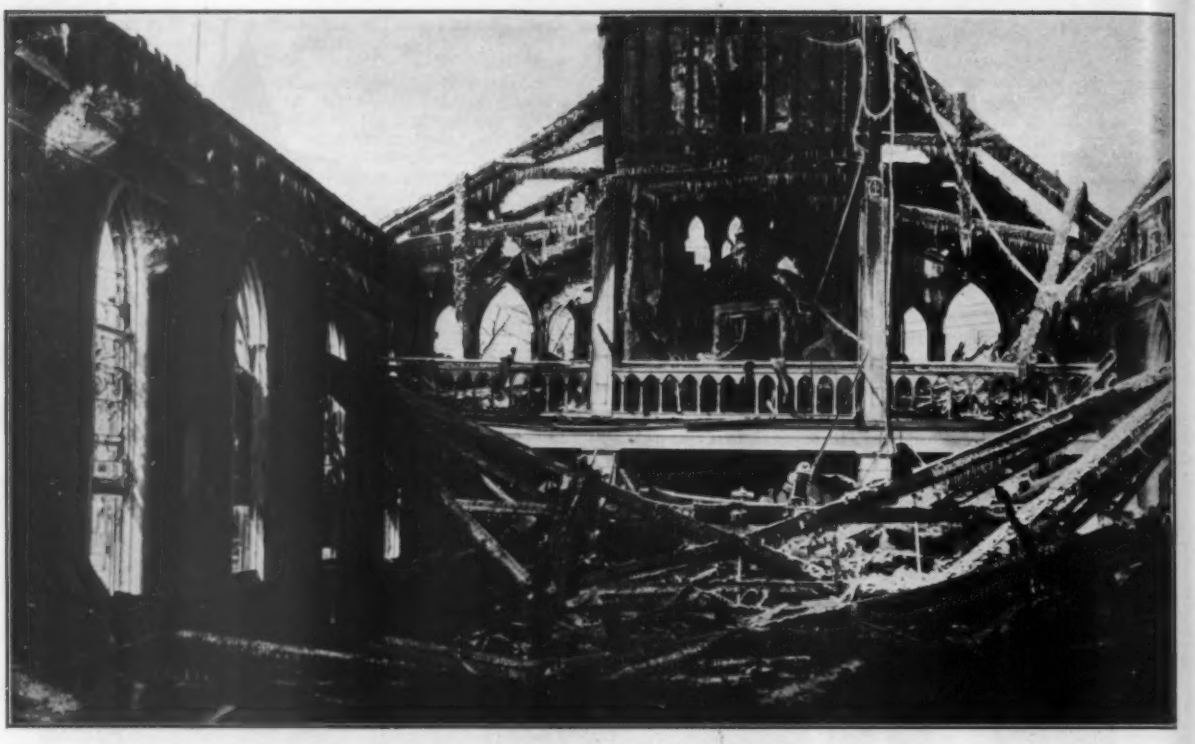


Fig. 1. Interior of Church in Brooklyn Following Fire.
Note the fallen timber trusses used to support roof. Also note concealed spaces over organ bay.

all directions and remains beyond the reach of the department until long ladders are brought into play on the outside and the roof opened up, or until the ceiling falls.

As a rule, fire involving the blind attic so weakens the roof beams that after a short time the roof falls through, carrying the ceiling with it. The type of roof trusses used to support the peaked roof upon collapsing often force some of the masonry work outward, with a result that the department operating at the fire has to be on the alert at all times for falling bricks, stones, and other materials.

An additional hazard to the men operating at such a fire is created by the presence of slate shingles, which are released through the fire burning in the blind attic, and which come sailing down to the street, frequently resulting in injury to the men. When the blind attic is fully involved, it is extremely hazardous for the men to operate within the auditorium of the church due to the possibility of the roof and ceiling falling through. In view of these conditions it is common practice, and

(*Continued on page 283*)

Fig. 2. One Reason Why the Large Church is Hard to Handle.
Balconies out of reach of streams from main entrance, and falsework beneath roof. Note timbers which form roof trusses.

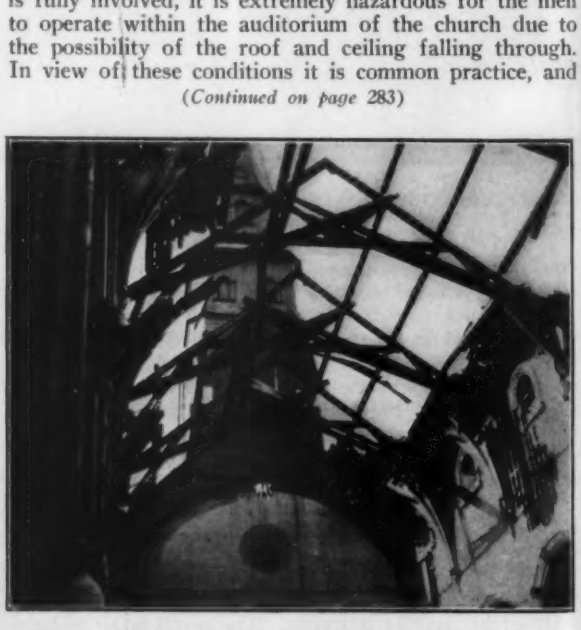


Fig. 3. Another Illustration Showing a Blind Attic at Top of Church Building.
Ceiling of church took the form of an arch shown by the plastered portion at front. Space between ceiling and roof trusses was concealed and out of reach from the inside of the church. Note also at extreme right the concealed vertical spaces between studding, where plaster has been removed.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

NOTHING is more provoking to fire officers than to rush pell mell through a maze of traffic, or to answer an alarm on a stormy night, and then find that the alarm was prompted by some person who took delight in watching the apparatus roll.

The trouble is universal. Each department fears an epidemic of false alarms, not only because of the expense of operation but because of the added danger to both men and apparatus.

In a number of communities, plans have been developed that have reduced the number of these aggravating calls. The problem in full that is treated in this issue is printed in the box on this page. Because of the large number of discussions received of this very important problem, it will continue in the next issue.

Should you have a question that you would like to see treated in this department, write to the "Round Table Editor," FIRE ENGINEERING, 225 W. 34th St., New York, N. Y. It is doubtful if more unbiased, practical advice can be obtained by any other method.

Here is the Problem

What method do you employ for reducing the number of false alarms?

The Problem

Most of the chiefs advocate posting a penalty for the arrest and conviction of persons who have turned in false alarms. This plan has been reported successful in many committees. The discussion, in full, follows:

E. F. Reed, Chief, Middletown, Ohio: I certainly feel that the subject of reducing the number of false alarms is a timely one. I believe it is one of the main worries of the chief. Any methods that tend to reduce the number of false alarms would certainly be of interest to all chiefs.

It is almost impossible to catch any one pulling a street box. As a general rule people do not care to implicate themselves by reporting a person whom they suspect to be sending in a false alarm.

We have very few telephone false alarms as these are very easily traced. When anyone calls the fire department phone number the operater is instructed to ask them if they wish to report a fire. After connecting the party with the department, the operator stays on the line until the call is finished. In the event of a wrong address being given or the alarm is proven false, it is an easy matter to call the local operator and secure the address of the telephone from which the call was made, as a record of such calls is kept by the operator.

At the present time I am preparing a recommendation on this subject to be presented to the City Commission asking them to repeal the present ordinance and pass a new ordinance to cover false alarms. The new ordinance which I am recommending includes a fine of not less than twenty-five dollars and a prison sentence of not less than thirty days, or both if necessary. This recommendation also includes a reward of twenty-five dollars for evidence leading to the arrest of any one sending in a false alarm.

G. W. Hedden, Chief, Buffalo, N. Y.: About seventy percent of our fire alarm boxes are equipped with local alarm bells. These are spring bells mechanically operated. They are mounted on the outside doors of some boxes and on the top of the inside movement case in others. As soon as the box is pulled the local bell is tripped off and attracts any one within the radius of about three hundred feet of the box. This has been the means of catching several of the so called "false alarm fiends" during the day.

Our greatest difficulty is experienced at night, and in a great many cases, in the early hours of the morning. On several occasions, some one, presumably traveling in an automobile, has sent in alarms from various locations of the city spread over a radius of from two to five miles.

The way we have been handling this problem is as follows: After two of these stations have been pulled in succession and are found to be false alarms, the operators at headquarters have instructions to dispatch only one engine company and one battalion chief. The battalion chief responding, on arrival at the station, immediately notifies headquarters by telephone as to his findings. If he should discover a fire and wants more apparatus he either pulls the alarm again preceded by his signature, or calls for the balance of the assignment by telephone.

We find this short assignment method works out very satisfactorily. In the first place it seems to remove the thrill which these people experience and, secondly, they know they are suspected and are being looked for.

W. R. Williams, Chief, Fresno, Cal.: The methods employed for reducing the number of false alarms in our city are as follows:

The inspectors of the Fire Prevention Bureau have forcefully explained to the children, through the medium of the public schools, the danger of sending in false alarms and also of the penalty for such action. This, we believe, has been the means of eliminating a great many false alarms.

We have in some cases used the off-shift watchmen in attempting to apprehend those responsible for transmitting false alarms.

A reward of twenty-five dollars has been offered to any citizen furnishing information which leads to the arrest and conviction of anyone committing this crime. This is an incentive to school children if it is explained to them properly.

Officials of the telephone company have also cooperated with us in eliminating the number of false alarms. In several instances they have had all calls from certain districts in the city supervised in their office. This resulted in the apprehension of those responsible for transmitting false alarms by telephone to the Fire Alarm Bureau.

Those who are convicted of sending in false alarms should be severely punished and their names given wide publicity as a warning to others.

S. F. De May, Chief, Detroit, Mich.: We have a standing reward of twenty-five dollars, payable to any citizen supplying information leading to the arrest and conviction of anyone turning in a false alarm. A sign to this effect is posted on every fire alarm box.

All policemen are instructed to pay particular attention to the fire alarm boxes on their beat to prevent false alarms from being turned in. Two policemen respond to all fire alarms. When an alarm is found to be false, the policemen and members of the fire department make inquiries in the immediate vicinity for information and description of the person or persons who might have seen around the box. A search is then made in the

neighborhood to locate the one suspected.

In the event of a series of false alarms being turned in in any particular neighborhood, the fire department operator notifies the police precinct, and they in turn detail men to watch these particular boxes. In addition to this, the deputy fire chief details firemen from the nearby fire houses to secrete themselves as close to the box as possible to catch the person guilty of turning in the alarms.

Members of the Arson Squad keep a daily check on false alarms, and assist firemen and policemen in apprehending and prosecuting persons guilty.

We recently had the state law governing this offense amended. The penalty has been increased from a fifty dollar fine or thirty days in prison to one hundred dollars fine or ninety days imprisonment. This law covers the turning in of alarms of fire by the ringing of any bell, the operation of any mechanical device, by voice, or in any other manner.

C. W. Ringer, Chief, Minneapolis, Minn.: Good judgement on the part of dispatchers answering calls prevents many false telephone alarms. When a call is received the dispatcher asks what is burning. As a general rule this results in the party hanging up the receiver. If the operator is suspicious of a child calling he will ask the child to call his mother or father to the phone. Usually the child becomes frightened and hangs up if the alarm is false.

To prevent false box alarms we are having plates made for each fire alarm box to read as follows: "Fifteen dollars reward will be paid for the arrest and conviction of any person sending in a false alarm."

When a box is pulled several times, we have a man to check up the neighborhood. If there is a watchman near the box he will usually co-operate with the department when the matter is explained to him. If several boxes are pulled in the same locality at intervals, it is very likely the work of boys. The principal of any school is always willing to help us in apprehending the offenders.

Firemen are instructed to be on the alert at all times for suspicious looking characters when an alarm proves false.

We also have a man who is continually lecturing on fire prevention in schools, clubs, churches, lodges, etc. In giving these lectures (especially to children), we find it advisable to read a clipping from a local paper, citing an actual case where sentence is received. The dangers of turning in false alarms should also be explained in detail. It is well to ask for co-operation in supplying information which may lead to the arrest of any person committing this offense.

H. A. Gilbert, Chief, Newman, Ga.: The "false alarm culprit" is always hard to catch. During my exprience I have hid for hours watching a box that was being pulled in an endeavor to catch the offender but somehow or other the guilty one always seems to know when he is being watched. However we have succeeded in catching a few persons and they were very heavily fined. Their action was given publicity to prevent further repetition of the act.

I believe that ninety percent of the false alarms are turned in by school boys. In our fire prevention program, such as articles in newspapers, talks in schools, and also in our everyday conversation, we impress upon the children the seriousness of turning in false alarms. Instances are cited where as many as three firemen have lost their lives in answering false alarms. The children should be impressed with the fact that they are indirectly the cause of the men losing their lives if they turned in the false alarm. The cost to the department and the danger of there being a real fire while companies are answering a false alarm should be stressed when talking to school children.

The public should be constantly informed as to the dangers of turning in false alarms.

J. W. Fisher, Chief, Dubuque, Iowa: The majority of our false alarms have been from street boxes which were pulled by school children for the thrill of seeing the rapid arrival of fire apparatus.

We have reduced the number of false alarms to a minimum by explaining to the children, during fire prevention week and at other intervals during the year, the ever present danger to firemen when answering an alarm. Also the danger to citizens in general. The fact that firemen have been killed and others injured while answering false alarms should be firmly impressed on their minds.

A boy seldom pulls a box when he is alone. It is usually a case of a boy wanting to show other boys how much nerve he has, not realizing the seriousness of his act. In many cases we have had boys come to the station nearest the box and report the guilty party. We have kept this information confidential, but the culprit received a visit from a police officer.

Children can be enlisted to co-operate with the department by appealing to their loyalty as citizens. As a general rule children want to feel that they are loyal, especially so far as their country is concerned. Impress upon them that it is their duty as good citizens to report anyone who wilfully violates a law by turning in a false alarm and endangers the lives of firemen.

We have had very few cases of adults intentionally sending in a false alarm. Those who were discovered were arrested and fined twenty-five dollars.

We Thank You!

Because of the large number of discussions received, this problem will be continued in the April 17 issue.

F. M. Russell, Chief, Albuquerque, New Mexico. We have the following city ordinance covering false alarms:

"Any person turning in a false alarm of fire at any of the fire alarm boxes of the city, knowing the same to be false, shall be convicted thereof and fined the sum of one hundred dollars, or be imprisoned for a period not exceeding three months, or both."

Fire alarm boxes should be placed near a street light.

Anyone who sees a false alarm being turned in should report the fact immediately to the police department, giving the number and location of the box from which the alarm was sent in.

Keep before the public the fact that there is a reward of fifty dollars for anyone supplying information that will lead to the arrest and conviction of a person or persons turning in a false alarm of fire.

Chas. A. McGinley, Chief, East Orange, N. J.: It is practically impossible to catch the guilty party sending in false alarms where a station is only summoned occasionally. However, we have been successful in apprehending persons who have pulled the same station several times. Whenever this happens, the chief of police details a man to watch the box during the hours the previous false alarms were turned in.

The last time this happened in this city, the plain clothes man waited near the station for thirteen consecutive nights before he was successful. The culprit was a boy on a bicycle coming from work. When he was caught he stated he saw the fire alarm box and pulled it each time.

The best way, in my opinion, to discourage false alarms is to place the guilty party on probation for one year, compelling him to pay a small fine each week when reporting to the police station. Each case should be given a lot of newspaper publicity as this is punishment in itself.

Full co-operation of the police department is necessary at all times to break this practice. Allowances have to be made when the guilty party is caught and proves to be a small child. In these cases a sound spanking by the parents has the desired effect.

M. J. Fleming, Chief, Albany, N. Y.: The captain or officer in charge of the first company responding to a box alarm, questions anyone standing at or near the box that has been pulled. People living in the immediate vicinity should be asked if they saw anyone near the box before the alarm was sent and if they could identify that person if he was located by the police. Police headquarters should be notified immediately when a false alarm has been turned in.

When the same box is pulled several times the co-operation of the police department is necessary. A man

(*Continued on page* 284)

What Should Modern Rules Include?

Rules for Superintendents of Fire Alarm Telegraph Systems and Their Assistants Considered—Twelth of Series

IN this installment of the series of articles on the rules and regulations of fire departments are considered the rules pertaining to superintendents of fire alarm telegraph systems and their assistants. For the superintendents there are forty-six rules contained in the forty-one reports analyzed, as compared with thirty-four of the rules for master mechanics and superintendents of machinery or repairs and eight for assistant superintendents of machinery or repairs considered in the last issue of FIRE ENGINEERING. An analysis of the rules for superintendents of fire alarm telegraph systems follows:

In sixteen of the forty-one departments considered the following rule is incorporated:

"The Supt. of Fire Alarm shall have full charge and control of the fire alarm system under the supervision of the Chief of Dept., to whom he shall be directly responsible. He shall see that all breaks or defects are promptly repaired or remedied, and shall be held responsible for the efficiency of the system at all times."

In nine of the forty-one departments the following rule is enforced:

"The Supt. of Fire Alarm shall have each fire alarm box tested at least once each month and oftener if necessary. He shall supervise the work of his employees and shall assign their hours of duty, subject to the approval of the Chief of department."

Eight of the departments consider the following rule essential:

"The Supt. of Fire Alarm shall see that a daily report of all fires for the preceding twenty-four hours is forwarded to the Chief of department. He shall submit a monthly report detailing the operations of the motor trucks under his supervision. He shall prepare and submit exact semi-monthly payrolls for his division. He shall forward to the Chief of department all communications relating to the fire alarm system or its equipment. He shall prepare and submit such other reports as he may deem necessary or as may be called for from time to time."

Seven cities have incorporated in their rules and regulations the following rule:

"The Supt. of Fire Alarm and Telegraph shall have entire supervision over the linemen and operators employed in the Department, and all orders issued by him, whether verbal or in writing, shall be promptly obeyed by said employees."

Out of the forty-one cities only six require these three rules:

"The Supt. of Fire Alarm shall report all violations of the rules and regulations by employees of the fire alarm division, to the Chief of department. He shall keep the operator on duty informed as to where he can be found in case of emergency."

"The Supt. of Fire Alarm shall perform such other duties as may be prescribed by the Chief of department."

"The Supt. of Fire Alarm shall report promptly to the Chief any interruption in the working of the lines, or apparatus, whereby there shall be a delay in striking or receiving an alarm of fire, unless the same is immediately repaired. In such report he shall state what amount of time will probably occur in repairing same, and when repaired he shall see that the Chief has notice of the fact."

Five cities have incorporated the following two rules:

"The Supt. of Fire Alarm shall keep a complete set of fire alarm office records; maps showing location of all circuits, and routes of underground and overhead conductors and their location in manholes or on poles."

"The Supt. of Fire Alarm shall give practical instructions to persons using the instruments in the employ of the city, at the different stations of the department, and elsewhere, as to enable them to use and keep the same in good working order."

The following two rules are enforced in three of the forty-one departments:

"The Supt. of Fire Alarm shall cause to be kept an accurate record of all calls, and other matters pertaining to the welfare of the Bureau."

"The Supt. of Fire Alarm shall annually file a report with the Chief of department of the doings of the year just closed, giving in detail all information and happenings in that branch of the system."

In two of the cities the following seven rules are enforced:

"Supt. of Fire Alarm shall be on duty at headquarters daily except Sundays and legal holidays, or whenever department business requires his attention elsewhere."

"The Supt. of Fire Alarm shall see that all Chief's drivers are properly instructed in sending in special calls or additional alarms."

"The Supt. of Fire Alarm shall have all wire tests properly and promptly made, and apparatus and appurtenances of the fire alarm office kept in proper condition. Investigate all complaints of telephone service, and see that all batteries are properly charged. Detail linemen on trouble and have all fire alarm boxes tested in accordance with regulations."

"The Supt. of Fire Alarm shall see that a full equipment of tools and supplies is constantly on hand, and make requisitions for the same on the Secretary's Office when needed."

"The Supt. of Fire Alarm shall submit to the Board during the latter part of December of each year an approximate cost of the items in detail for the subsequent budget that, in his judgment, will be necessary for the proper upkeep of the Bureau."

"In order to facilitate and expedite the repairing of the signal system, the Supt. of Fire Alarm is authorized to apply for any assistance to the Chief Engineer, or Deputy or Battalion Chief of the district within which the breakage or other injury occurred or repair is needed; and the Deputy or Battalion Chief on receiving such application, shall, when circumstances will admit, detail one or more of the permanently employed men of his district to assist in whatever work may be required."

"The Supt. of Fire Alarm shall not make any purchases or incur any liabilities except by written authority of the Director of Public Safety and the Commissioner of Purchases and Supplies."

The rules which follow have been found listed in but one city each:

Denver, Colo.

"The Supt. of Fire Alarm shall be authorized in case of an emergency to apply at any fire station for a detail of men to aid in making repairs on the lines."

Baltimore, Md.

"The Supt. of Fire Alarm shall make a personal inspection of the electrical equipment of the Fire Alarm Telegraph Department, and see that proper care is taken of such equipment and appliances."

"The Supt. of Fire Alarm shall make out time rolls, and arrange for holidays and vacations subject to the approval of the Board of Fire Commissioners."

"The Supt. of Fire Alarm shall inspect all uniforms of members at least once each month and allow none to be

worn that do not comply with the rules governing uniforms."

"The Supt. of Fire Alarm shall submit a complete inventory in which shall be included all parts on hand during the latter part of December of each year."

"The Supt. of Fire Alarm shall summarily suspend from duty any member of the Fire Alarm Telegraph Department for a flagrant violation of any law, ordinance, rule or regulation of the service, where in any instance the reputation of the Fire Department is affected, and report such action to the Board of Fire Commissioners as soon as possible."

"The Supt. of Fire Alarm shall render any assistance to the Chief or Deputy Chief of the Department in remedying any defects in the equipment of the high pressure service, or assist in any mergency in which the services of the employees of the Fire Alarm Telegraph Department may be of value."

Detroit, Mich.

"The Supt. of Fire Alarm shall see that there is at all times a sufficient force at the Central office to promptly repair 'breaks' or remove 'trouble' on the lines."

"The Supt. of Fire Alarm shall see that proper directions are placed near each fire alarm box for the guidance of the persons desiring to send in an alarm of fire."

"The Supt. of Fire Alarm shall also forward the daily watch report to the Chief of Department."

"The Supt. of Fire Alarm shall keep a systematic record of all parts and materials on hand at all times, together with a detailed record of all parts and materials used from day to day."

Minneapolis, Minn.

"The Supt. of Fire Alarm shall detail one or more of his men to sleep at the Fire Alarm Headquarters, to answer calls for repairs and to assist the Fire Signal Dispatchers on watch, and will see that the beds and accommodations are furnished for that purpose."

East Orange, N. J.

"The Supt. of Fire Alarm shall not leave the city for a longer period than twenty-four hours without the permission of the Chief."

Syracuse, N. Y.

"The Supt. of Fire Alarm shall see that the employees are punctual at their work at the time specified for the beginning, and remaining there until the time specified for the termination of the working hours. They shall also be subject to call for duty at any time."

Jersey City, N. J.

"The Supt. of Fire Alarm shall arrange for attendance of himself or his assistant or one or more linesmen at every fire for which an alarm after the second is sounded."

"The Supt. of Fire Alarm shall see that the search light answers all second or greater alarms and that it is always in readiness for immediate use."

Newark, N. J.

"The Supt. of Fire Alarm, Asst. Supt. of Fire Alarm and all members of this Bureau shall come under the government of the uniformed force."

Utica, N. Y.

"The Supt. of Fire Alarm shall not permit or allow the use or handling of any of the instruments or appliances, by any unauthorized person or persons, and will not allow loitering in or about the instruments or battery room. He will be courteous and polite to all visitors and shall extend such attention as his time permits."

"The locating, changing or removing of fire alarm stations, and any recommendation pertaining to the removal thereof, shall be made by the Chief Engineer."

"All fire alarm boxes with glass fronts must be supplied with a suitable number of extra glasses."

"Upon receiving notice of a broken glass in a fire alarm box, the Supt. of Fire Alarm shall immediately proceed to replace it."

"The Supt. of Fire Alarm and the other employees of the telegraph branch while in discharge of their duties, shall upon leaving the quarters of the branch at the Central Fire Station, leave information with the house watch as to their destination, to enable communication in case of trouble."

Toledo, Ohio

"The Supt. of Fire Alarm shall have supervision over all outside electrical construction in the city, as provided by city ordinance."

"The Supt. of Fire Alarm shall cause all unnecessary poles and wires to be removed from the streets without delay."

"The Supt. of Fire Alarm shall issue permits for the setting of all new poles or lines of poles before such work can be executed."

"The Supt. of Fire Alarm shall issue permits for the stringing of all cables and wires before such work can be executed."

"The Supt. of Fire Alarm shall see that cables and wires are not maintained contrary to the city ordinances in certain sections of the city."

"No device or instrument shall be attached to any piece of electrical machinery without the consent and under the supervision of the Supt. of Fire Alarm."

CHIEF MATHEWS OF TAMPA KILLED IN CRASH WHILE RUSHING TO FIRE

Although Head-On Collision Was Averted, Effect of Sideswipe Proved Fatal—Accident at Street Intersection — Chief Many Years

W. M. MATHEWS, head of the fire department in Tampa, Fla., was killed on March 29th, when the car in which he was rushing to a fire was sideswiped by a ladder truck that was speeding down another street. Only the efforts of the drivers of both cars to avoid the crash, prevented a head-on collision.

Chief Mathews was in a barber shop when the alarm came in. As soon as he learned the location of the fire, he rushed out to his car and directed his driver to proceed to the fire. The ladder truck was already on its way. The accident accurred at the intersection of two streets just as the chief's car was turning into the main thoroughfare. The siren on each car prevented the noise from the other being heard. When the crash came, Chief Mathews was thrown beneath the truck. His car was hurled into a semi-circle and came to rest on the opposite side of the street from the truck. The ladder truck damaged two parked automobiles.

The Late Chief W. M. Mathews

Chief Mathews was formerly police captain. In 1910, the mayor selected him to head the fire department. With the coming of the commission form of government, the chief left the department, but he returned when the present party came in power in February 1928. Just a short while prior to his death he had a talk with the mayor in reference to new fire stations. He was known locally for being a good manager and leader as well as a fire-fighter.

He came to Tampa from Orlando where he was in the livestock business.

Fire Apparatus Delivered to Verona, O.—The second community fire truck in the county, has been placed in service in Verona, Ohio.

Norristown, Pa., to Have New House—A new fire station costing $30,000 has been planned for Norristown, Pa. The building will be of joisted brick, two stories high. Construction will start soon.

England's Fire Engine Placed in Museum—What is believed to be the oldest piece of fire apparatus in England has been placed in the London Museum. The apparatus consisted of a large wooden tub from which water was pumped through an iron pipe in the middle. Originally the device rested on a carriage with solid wooden tires. The apparatus was made in London in 1678.

WITH THE EDITOR

The Short School for Firemen

A feature that is growing in popularity and is increasing among the states is the so-called Short School for Firemen, usually conducted under the joint auspices of the State University and the State Firemen's Association.

That there is a growing demand for this useful institution is well proved by the increase of the number of these schools throughout the country. Each year new states are added to the list of those conducting such schools, and the courses are practically always selected with care and intelligence, as far as their usefulness to officers and firemen are concerned.

Such short schools usually cover about a week's time, and are conducted free of charge to the men, outside of transportation expenses and hotel fees. The courses include a varied program of demonstrations, lectures, discussions and, almost invariably, a fireman's drill school. Some of the subjects taught are the handling of fires in extra hazardous districts, fighting special fires, the use and properties of chemicals, the selection and care of fire fighting apparatus and equipment, salvage work, fighting oil fires, ventilation, the care of hose, and many other important matters that a fireman must thoroughly know.

In the matter of fire prevention the educational features are thoroughly explained to the firemen by experts, and the training school is usually planned so that every attendant at the school is given the opportunity, not only of observing demonstrations in ladder and hose evolutions, resuscitation and first aid to the injured, but they all receive actual instruction through taking part in such operations.

Another important point in such schools is the opportunity given for thorough discussion of problems that are of individual interest to each man. Such problems are usually brought to the attention of the school in the form of a question box, which is open for all and through which any member who has a problem for consideration is urged to ask for assistance and advice of the fellow members.

Thus the school becomes a forum through which all questions of mutual interest can be aired and discussed, to the mutual benefit of every member present at its sessions.

Steadiness and the Fire Drill

A striking illustration of what the fire drill in public and other schools has accomplished was given in connection with a small fire which occurred a short time ago in a New York City moving picture theatre. During an afternoon performance, in which the audience was largely composed of school children, numbering some two or three hundred persons, a blaze started in the projection room and the theatre began rapidly to fill with smoke.

There was in this situation the elements of a disaster through panic, but, with a steadiness which was remarkable, the children were quickly formed for fire drill by the older and cooler heads present, and marched quietly out in as orderly manner as if they were taking part in an ordinary fire drill during the school session.

This is another illustration of the psychological effect of the frequent fire drill conducted in schools and factories. The mind of the person so trained, when moments of peril arise and the fire signal is sounded in reality, naturally and almost automatically reverts to the action instilled through patient and careful training, so that the individual, instead of dashing madly for the nearest exit, regardless of the lives of others, calmly takes the lead in moving quietly toward safety, without hurry or excitement.

It is truly said that mob panic is contagious, and that once the crowd gets beyond control, through the acts of a few members that have unfortunately lost their heads, it is unrestrainable. But the qualities of calmness and fearlessless will also impress themselves upon a large gathering, and one or two leaders in a crowd can quickly calm the surging excitement and avoid the much feared panic.

When, therefore, a large proportion of an audience of this kind has had the idea of calmness and coolness in time of danger instilled into it, and the training underneath naturally tends to create steadiness among the individuals composing it, the work of keeping the gathering within bounds is rendered infinitely easier for those who are in charge.

The school fire drill, thus, has not only demonstrated its usefulness in saving life at actual fires and threatened panics in schools, but its influence has also been demonstrated on the scholars in their actions outside of school hours when stress and danger call for the exercise of coolness and levelheadedness.

Personal Liability for Fire

In European countries the idea of holding the careless individual responsible for a fire arising from a fault of his own is looked upon as a matter of course. If such a fire damages the property of a neighbor, the guilty person must stand the expense of restoring the property to its former condition.

In this country such a principle, up to very recent

times, has not been in general practice, and has in many localities never before even been considered. More often, the individual who has a fire is looked upon with sympathy by his neighbors, as one who has suffered an unavoidable misfortune. If a neighbor's property also has been damaged, this is the hard luck of the latter and no one is blamed. Anyhow, probably, the loss will fall upon the insurance company, and so why should either party worry!

Of late, however, the sentiment in this subject has undergone a change. This is very largely owing to the dispensing of the fire prevention doctrine by fire departments and other agencies and consequently an increase in knowledge of the origin of fire and the comparative ease by which it can be prevented. This change of sentiment has been reflected in recent legislation, both state and municipal. Some states and many cities now include among their laws the provision that an individual can be held responsible for loss to adjacent property through a fire which has been the result of carelessness or lack of proper precaution on his part.

This is eminently just. The precautions to be taken against fire, including cleanliness and good housekeeping, are by no means either expensive or onerous to the individual, nor do they, as a general rule, entail any very severe hardship to either his time or his pocketbook. On the contrary, they usually are in line with the improvement of his property both in appearance and value.

So that there is little excuse for the careless individual who has a fire and he most generally deserves all that he gets in loss and expense through the loss to others.

Chief Kennedy of Augusta, Married

No more will Chief John B. Kennedy of Augusta, Georgia, be entitled to sing the old refrain: "A single life's the life for me." He is now a benedict.

Chief John B. Kennedy

The marriage of Chief Kennedy and Miss Margie Prescott was impressively observed in the Presbyterian Church in Aiken, S. C.

The bride, a titian blonde of decided beauty, is the daughter of Mr. and Mrs. L. H. Prescott of Edgefield, S. C., and has resided for several years in Augusta, Ga. Chief Kennedy is one of the more popular young men in Augusta and is the youngest chief to head a department of the size of his city, anywhere in the United States.

Chief Kennedy succeeded the late Frank G. Reynolds as head of the department in December, 1924. He is a member of the International Association of Fire Chiefs, the Masonic order, and is also a member of the Exchange Club, a local organization.

JOHN A. STULB.

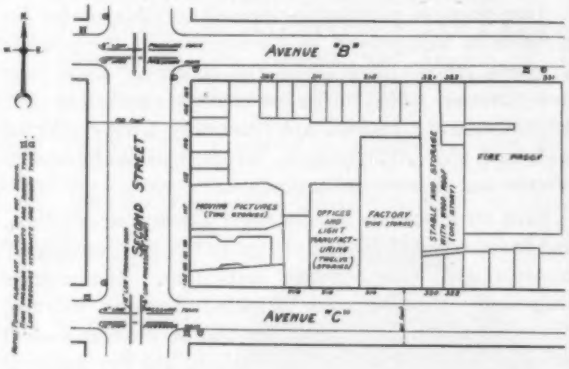
NEW YORK CITY HOLDS TESTS FOR PROMOTION TO LIEUTENANT

Candidates Agree That Examinations Were Fair—All Questions Called for Complete Discussion—False and True Questions Eliminated

ONLY twenty-three of the large number of firemen who applied for the promotional examination for lieutenant, failed to appear for the written examination. In all, 2,853 men were on hand. The questions necessitated a great deal of writing. The examination in full is as follows:

Administration, Weight 6

The accompanying sketch shows the scene of a fire at 121 Second Street, an old, five-story apartment house with four families on each floor except the first where there are stores. At 2 A. M. on a hot summer morning a patrolman



saw flames break through the windows of one of the stores. Evidence was subsequently discovered that the stock of toys and novelties, largely made of wood, paper, and celluloid, had been thoroughly soaked with kerosene. All the small buildings on the block are single dwellings or narrow front apartment houses; about half of them contain stores. 125 Second Street and 308 Avenue A are old three-story brick buildings used together as a rooming house. Other blocks in the vicinity are of similar character. The six-inch main in Second Street was being relaid and the trench was open.

Note: In the diagram accompanying this problem Avenue "C" should be Avenue "A." This error, no doubt, was quickly detected by the candidates taking the examination. Such a mistake, while unfortunate, is a thing that occasionally happens no matter how carefully the questions are prepared and proofread. The stress under which the Commission works in getting these examinations in shape at the last moment is such that it is surprising more errors do not creep into the work.

NOTE: Answer Question 1 separately from Question 2.

Question 1. Size up the situation. State the hazards and the possibilities. Mention matters requiring immediate attention and special precaution.

Question 2. When you arrived in command of an engine company, flames were entering the open windows of the bedroom of the apartment over the store. Three engine companies and two hook and ladder trucks followed you. The chiefs were delayed at another fire and you were in command twelve minutes. State what orders you would give the companies present during this time.

Question 3. A fire has complete possession of the five-story factory at 314 Avenue A (shown on the sketch used for Questions 1 and 2) and flames are coming through the roof. The wind blows strongly from the East. There are windows on the east side of the building at 310 Avenue A which is semi-fireproof. State clearly how you would deal with the hazard to the latter building, taking into consideration the dimensions of these buildings and their surroundings as indicated on the sketch. Assume that you are in command of four engines and two trucks.

Question 4. (a) Describe the oiling system of a gasoline pumper and make a sketch of a chart showing what points are lubricated and how often.

(b) What is a back draft? In buildings of what kind does it occur and why? What precautions regarding it are necessary?

Question 5. (a) Discuss from the points of view of the fire department and of builders the suggestion that only fireproofed wood be used in scaffolding. (b) Discuss the substitution of inhalators for pulmotors.

Report, Weight 1

Write a report addressed to the Fire Commissioner on the fire hazards which exist in connection with the use of oil burners for domestic and commercial heating. State your ideas regarding the installation and operation of such heaters.

N. B. 1—Sign this report "John Doe, Lieutenant, Engine

(*Continued on page 282*)

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Discharge from Open Butts

To the Editor:

I would appreciate your assistance very much if you would answer the following questions in an early issue.

T. H. A.

Question 1. A pumping engine is pumping through two lines siamesed into a deck gun. A second pumping engine is pumping through one line into the deck gun. How much pressure does it take for the second engine to open clapper valve after first engine is operating?

Question 2. If three men were to hold a charged line horizontally above water, said line being in operation, and then suddenly submerge the line, including the nozzle, beneath the water, would the men have more or less trouble holding the line? It is assumed the body of water is over 10 feet deep.

Question 3. What becomes of the spark after it jumps across the points of a spark plug?

Question 4. Engine pressure is 80 lbs. ¾-inch tip is used. Length of line is 100 ft. of 2½-inch hose. What is the nozzle pressure? Discharge?

Question 5. If the nozzle pressure is 80 lbs., the nozzle tip is ¾-inch diameter, and the length of the line is 100 ft., how many gallons of water will be discharged per minute?

Question 6. If on your way to a fire you discover a second fire, what would you do?

(In my opinion the company is justified in going to work at the second fire, and sending in a special alarm to cover the first one. My reasons for this are: you know you have a fire when you discover the second one. The first one may be a false alarm. More than 15% of all bell alarms are false. Fully 50% are extinguished by one company working. Furthermore by the time companies arrive at the second fire, it may have grown to serious proportion.)

Answer 1. This is a balanced type layout in which it would be impossible to determine the pressure being delivered by the first engine at the siamese connection without knowing nozzle diameter, nozzle pressure and other essential details. You will probably appreciate that the pressure at the siamese connection will depend upon how much water is flowing in the line, because the pressure at this connection will be equal to the engine pressure minus what is lost by friction in the hose line. Until we know how much water is flowing, and the length of the lines of hose feeding the siamese, it would be impossible to say what the pressure at the siamese would be.

This much may be said, however: it takes between 5 and 10 lbs. additional, over the pressure within a siamese connection, to open the clapper valve, when such siamese is in operation carrying water from the engine to any other device. Thus if the pressure within the siamese connection were 50 lbs., you might figure on between 55 and 60 lbs. necessary on one of the other outlets in order to open the clapper valve against the 50 lbs. pressure within. This is due to the larger area of the clapper valve exposed to pressure inside the siamese as compared to the area exposed to the pressure on the inlet side.

Answer 2. It probably would be a difficult problem to hold the nozzle under these conditions. The high velocity of the water would tend to drive the nozzle and hose backward vigorously and it would certainly require work to hold it, if the pressure were high.

Answer 3. The spark is nothing more than a visible evidence of the travel of electric current through the air between the points of the spark plug. You might consider the spark (or the traveling electricity) as heating up the air and particles of material therein to incandescence. The moment the current stops flowing, the light, and hence the visibility vanishes.

Another way of considering the spark is as follows: consider electricity passing through a good conductor like iron, copper, or any other metal, as traveling through a pipe. When it reaches the end of the pipe and jumps to another pipe, you see the current passing. The moment the current stops, it is no longer visible in the gap. The heat created by the spark ignites the gas in the cylinder but before this gas has a chance to burn the spark has vanished due to the discontinuance of flow of electricity.

Answer 4. Nozzle pressure equals engine pressure divided by (1.1 + KL).

In this case K, for 2½-inch hose and ¾-inch nozzle, equals .0316.

L, which is the number of 50 ft. lengths of hose in the line, equals 2.

Then nozzle pressure equals 80 divided by (1.1 plus .0316 × 2).

Nozzle pressure = 80 divided by 1.1632 equals 68.7.

Discharge is found by the usual formula: Discharge equals 80 × diameter × diameter × the square root of nozzle pressure.

= 30 × .75 × .75 × 8.28.

= 139.7 gallons per minute.

Answer 5. In this case the discharge is found directly, without taking into account the length of the line of hose.

Discharge equals 30 × .75 × .75 × square root of 80.

= 30 × .75 × .75 × 8.94.

= 151 gallons per minute approximately.

Answer 6. What you say is entirely correct; but there is one condition which deserves first consideration. It is this: the alarm may be sent in by telephone, and but two companies respond, usually a pumper and a hose wagon. The person sending the alarm in may live across the way from the fire and may not appreciate the seriousness nor the life hazard involved. As a result the first still alarm assignment is sent out. Now assume that one of the companies is delayed in getting there for some reason or other; then the entire responsibility for the original fire will rest with your company, and unless the second fire discovered represents a distinct life hazard or a very serious fire hazard, your company should proceed to the original fire, after dropping a man off to transmit a call and to do what he can at the second fire until apparatus arrives.

Of additional importance in the answering of this question is the fact that civil service commission generally recognize the above practice. Hence, in answering examination questions of this type it is well to abide by the practice recognized by the commission; hence the answer as given.

Farmers Given Lecture on Fire Fighting—Demonstrations showing the best method and equipment for rural fire control was made by the Agricultural Extension Service of the University of California.

Chief Weeks of Battle Creek has 50th Anniversary—W. P. Weeks, head of the department in Battle Creek, Mich., has observed his fiftieth anniversary as a member of the department. He became head of the department thirty-seven years ago. Chief Weeks points with pride to the progress made during the past year. A modern fire alarm system was installed in headquarters.

Uniontown, Pa., to Buy Apparatus—A pumper with hose body will be purchased by Uniontown, Pa. The present apparatus has been in use since 1914.

CHIEF SAM BOYD, OVERCOME BY SMOKE, DIES IN AMBULANCE

Passes Away While on Way to Hospital—Talked of Retiring Six Weeks Ago Because of High Blood Pressure—Made Chief in 1900

CHIEF SAM B. BOYD, internationally known fire chief, has his wish fulfilled. He had often told his friends that he would like to answer the Final Call while on active duty. He died March 29 while being rushed to the hospital to be treated for the effects of smoke exposure at a blaze in the old Chamber of Commerce building. He was rushed to the hospital and his wife notified. But before Mrs. Boyd came, the chief was dead. He was sixty-four years old.

The Late Chief Sam B. Boyd

Chief Boyd was a graduate of the University of Tennessee. After leaving school he worked for a furniture firm of which his father was the senior member. He remained with this company for ten years and then resigned to go to New York where he worked for two years. In 1893, he returned to Knoxville and was sent east as a traveling representative for a local company.

He had often expressed a desire to be a fireman and work his way up in the ranks. In 1900 Sam Boyd was named chief of the fire department. At that time all of the apparatus was horse-drawn.

Chief Boyd attended all of the important annual fire service conventions. He served as Tennessee State vice-president of the International Association of Fire Chiefs for eight consecutive years. He was chairman of the exhibit committee at New Orleans in 1914 and chairman of the Entertainment Committee at the convention held in Providence, R. I., in 1916. The International Association of Fire Chiefs elected him president for the term 1925-1926.

In recent months he had been talking of retiring from the fire service. Doctors had found that he was suffering from high blood pressure and they advised him not to over-exert himself. However, Chief Boyd stated that he would remain in the service a while longer.

Chief Boyd married the daughter of a Presbyterian minister in 1904. No children were born to this union.

He was a member of the B. P. O. Elks, the Royal Arcanum and Kappa Sigma.

Funeral services were held from the First Presbyterian Church of which he was a member. Scores of telegrams were received, expressing sympathy, from all over the country.

City officials of Knoxville are favorable to the plan to name one of the new fire stations to be erected within the next year, after the late Chief Sam B. Boyd.

Fire Waste Council Plans Schools

The First Service Extension Committee of the National Fire Waste Council plans to hold its first meeting at the time of the Illinois Fire College at the University of Illinois at Urbana, Ill. This college will be one of the first fire colleges held.

A procedure for fire colleges is being prepared by Clarence Goldsmith, assistant chief engineer of the National Board of Fire Underwriters, "Smoky" Rogers of the Western Actuarial Bureau and Captain Render. The plans made by these men will be improved by the other members of this committee.

Correspondence will be started with the governors of the various states, presidents of state universities, state fire marshals, secretaries of firemen's and chiefs' organizations, and others, regarding the possibilities of establishing fire colleges in each state.

It is possible that local committees will be appointed to carry on this work. Such local committees will consist of the Governor, president of the state university or dean of the school of engineering, mayor, fire marshal and chiefs of several departments.

G. H. Parker of the Kentucky Actuarial Bureau is chairman of the Fire Service Extension Committee.

NEW ENGLAND FIRE CHIEFS DISCUSS CONVENTION DETAILS

List Prepared of Papers to be Presented at Meetings—Shore Dinner Planned at Savin Rock and Exhibition Drill by New Haven

By HARRY BELKNAP

PLANS for the coming annual convention of the New England Association of Fire Chiefs were made at a meeting of the Board of Directors and State Vice-Presidents held at the Parker House, Boston, on March 20. The seventh annual convention will be held in New Haven, Conn., on June 25-27.

Those attending were: Chief Oliver T. Sanborn, of Portland, Me., president; Chief John W. O'Hearn, Watertown, Mass., secretary-treasurer; George F. Cobb, Boston, traffic manager; Harry Belknap, Boston, press representative; Chief Selden R. Allen, Brookline, Mass.; Chief Alfred H. Koltonski, Rutland, Vt.; Supt. Henry Thompson, Boston Protective Department; Chief James M. Casey, Cambridge, Mass.; Chief Carl W. Stockwell, Burlington, Vt.; Chief Lawrence E. Reif, New Haven, Conn.; Chief James C. Mahoney, Peabody, Mass.; Chief Arthur W. Spring, Laconia, N. H.; Chief Daniel B. Tierney, Arlington, Mass.; Chief John S. Pachl, Annex Fire Department, New Haven, Conn., chairman of Exhibit Committee; Chief Victor H. Veit, Stamford, Conn.; Chief John A. Savage, Valley Falls, R. I.; and Chief Charles H. Fortin, Lewiston, Me.

It was voted to have papers prepared on the following subjects for presentation at the convention: Regulations for Installation and Care of Oil Burning Heaters and Furnaces, Fire Hazards of Private and Public Garages, Hazards of Electrical Refrigeration, First Aid Methods, Tank Wagons and Gasoline Storage, Forest Fires, Perils of Celluloid, and Fire Prevention Inspection.

Invitations to address the convention will be sent to Assistant Chief Dougherty, of the New York Fire Department; Fred Shepperd, Managing Editor of FIRE ENGINEERING; and W. S. Mallalieu, of the National Board of Fire Underwriters.

Chief Reif, of New Haven, stated that indications point to a large attendance at the convention. He is planning for a shore dinner to be held at Savin Rock and for an exhibition drill to be given by the New Haven department of fire service at the drill tower on Whalley Avenue.

Chief Pachl expects an exceptionally complete exhibition of apparatus to be on view at the armory on Meadow Street which is only a short distance from convention headquarters in the Hotel Taft.

Hotel and transportation arrangements are in the hands of George F. Cobb, traffic manager of the association, whose address is 774 Albany Street, Boston, Mass.

It was voted to have the state vice-presidents of the association take the lead in a membership drive which is to be inaugurated shortly.

Negro Found Guilty of Arson Charges

For the third time since last fall, persons have been convicted of arson in Shreveport, La. Previous to these recent cases, no arson conviction has been obtained during the past ten years. The last one convicted was a negro who was extremely popular with the ladies.

He is charged with setting fire to the house of a negress. He had been living with the daughter of this negress for some time, and in order to get revenge because she had left him, he set fire to the house. Chief S. J. Flores testified that the fire was of incendiary origin, and footprints found about the house matched with the type shoes that the negro wore.

Barberton, O., Buys Aerial Ladder—Barberton, Ohio, has purchased a Seagrave aerial ladder and a pumper. The apparatus is expected to be delivered in ninety days.

E. Akron, O., to Erect Fire House—Three possible sites are being considered for the new East Akron, Ohio, fire station.

Left—Fighting the Three-Alarm Fire From the State Street Side; Right—Heavy Streams Used on the Central Street Side of Building

THREE ALARMS TURNED IN FOR PAINT STORE FIRE IN BOSTON

Two Platoons Kept on Duty — Searchlight Wagons and Other Special Apparatus Used—Fireboat Assisted From Waterfront—Hard Fight

By HARRY BELKNAP

THE old granite State Street Block in Boston, Mass., was the scene of another serious fire on March 13 when the building occupied by Masury and Son, dealers in paints and varnishes, 229-231 State St., was swept by flames with a loss estimated at $250,000.

The blaze was discovered by a patrolman who sounded an alarm from corner of India and Central Streets, at 6:36 A.M. When the apparatus reached the scene, flames were raging on the third floor and the entire 8-story structure was heavily charged with heat and smoke.

Deputy Chief John Kelly ordered a second alarm at 6:43 and a third alarm at 6:48. Hose lines were taken over stairways to the third floor, over ladders on the State Street side of the building, over fire escapes and ladders on the Central side, and over ladders and stairways to adjoining buildings. Other lines from high pressure hydrants were connected to wagon guns and water towers.

The response of apparatus was as follows: On the first alarm—Engine Companies 25, 8, 39, 26, and 44 (fireboat); Ladder Companies 8 and 1, Water Tower No. 1, Rescue Company No. 1, Deputy Chief of Division 1, and chiefs of districts 3 and 4. High Pressure Wagon No. 2 responded with Engine Co. 25.

On the second alarm rolled Engine Companies 4, 7, 6, 50, and 47 (fireboat); Ladder Companies 18 and 17, Water Tower No. 3, and chief of district 5. High Pressure Wagon No. 3 responded with Engine 4 and High Pressure Wagon No. 1 with Engine 7.

The third alarm brought to the scene Engine Companies 15, 22, 35, and 9; Ladder Company No. 13, and the chief of Division 2. The two searchlight wagons, fuel car, and wagons of the Boston Protective Department and Boston Consolidated Gas Company emergency crew also responded.

Chief Daniel F. Sennott was at the fire. Chief Sennott serves as acting commissioner while Eugene C. Hultman is on vacation. Other officers present were Assistant Chief Henry A. Fox, Acting Chief of Department and in charge of operations; Deputy Chiefs John Kelly, Henry J. Power, and Thomas Downey; and District Chiefs Quigley, McDonough, Watson, Coughlin, Kenny, and Good. Both platoons were kept on duty at the fire which accounts for the large numbers of officers present.

Hose lines were taken into the building at 223-229 State Street occupied by H. A. Johnson, dealer in bakers' supplies, and streams were played into the burning building through fire doors on the third floor.

The fire burned fiercely and was fanned by a brisk northwesterly wind. Great clouds of smoke billowed from the windows and filled the adjoining streets, a heavy pall being cast over the harbor.

The crew of one of the fireboats (Engine 44) assisted the land companies. The other fireboat was sent back to its station. There was plenty water available from the 16-inch high pressure mains and the 12-inch low service mains; hence no lines were laid from the boats. The fire was only a half block from the waterfront.

The Morse guns on the high pressure wagons were used effectively. Two wagon gun streams were operated on the Central Street side of the building and water towers were used on both State and Central Street. Burrell smoke masks were used by the hosemen working inside the buildings. Several firemen suffered bad cuts from glass and a number were partly overcome by smoke.

It was after 9 A.M. before the fire was brought under control. The flames went through the roof and burned away the stairs above the third floor. The 5th, 6th, 7th, and 8th floors collapsed.

The department laid 15,450 feet of 2½-inch hose and 4,200 feet of 3 inch hose. All of the hose was cotton rubber lined. Approximately 900 feet of ladders were raised. Bresnan hose hoists were used. The size of nozzles ranged from two inches on the water towers and two inches and 1¾ inches on the Morse guns, to 1¼-inch tips on the mobile lines.

There was 175 pounds pressure at the high pressure hydrants and 140 pounds from the motor pumping engines. The low service hydrants had from 45 to 50 pounds pressure. The apparatus was American-La France pumpers, hose wagons, and aerial ladder trucks.

The building involved in the fire was about 220 feet deep, 35 feet wide, and 125 feet high. It was of second class con-

struction. Exterior was granite and brick with wooded interior. There were no thermostats or sprinklers and the fire had obtained great headway before it was discovered.

The block of which this building is a part is a long granite structure extending from Atlantic Avenue to Custom House Square and running through from State Street to Central Street. It is divided into sections by fire walls. It was formerly known as the Customs House Block but is now generally known as the State Street Block.

In past years serious fires have occurred in this block in the premises of the Kelley Peanut Company, the Murray Company, fruit syrups; and the Webster Thomas Company, wholesale grocers.

The present fire was confined to the building or section in which it originated, but swept from the third floor to the roof. The occupants were Masury and Sons, dealers in paints and varnishes, and H. A. Johnson, who used two floors for storage purposes. The damage was estimated at $250,000.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending March 22

TOLLEY, N. DAK.—Business property destroyed	30
MONESSEN, PA.—Property of First National Bank	65
BLOOMINGTON, ILL.—Elevator of Funk Seed Co.	80
LITCHFIELD, MINN.—Litchfield school destroyed	100
AUSTIN, MINN.—Bldg. of Maple Dale Hatchery	80
COOKS FALLS, N. Y.—Plant of Leighton Chemical Co.	30
FLORENCE, WISC.—Florence High School destroyed	40
MARTINSVILLE, IND.—New Highland Sanatorium	165
WILWAUKEE, WISC.—Whse. occupied by Silberman Bros.	30
E. PROVIDENCE, R. I.—Haven M. E. Church destroyed	60
CLIFTON, N. J.—Sheds of Builder's Supply Co.	70
BROOKLYN, N. Y.—Bldg. of Williamsburg Wrecking Co.	25
REDSTONE, N. H.—Bldg. of N. H. Granite Corp.	165
NEW PROVIDENCE, PA.—Dwelling of Miss S. Tweed	25
FREEBURG, PA.—G. H. Moyer Store and adj. bldg.	65
MONTREAL, QUE.—Property of Galt estate	65
WORCESTER, MASS.—Residence of J. E. Whitin	25
WALTHAM, MASS.—Chase photo finishing plant	25
CALLAWAY, NEBR.—Mill of Callaway Co.	40
DELAWANA, N. J.—Lumber yds. of S. M. Birch Co.	165
FINDLAY, ILL.—Saylor rug store an adj. bldgs.	50
MINNEAPOLIS, MINN.—Plant of Simons Millwork, Inc.	40
SPARTANBURG, S. C.—J. D. Collins' dept. store	125
LEXINGTON, KY.—J. D. Purcell store, adj. property	225
MUSKOGEE, OKLA.—Ward Way bus terminal	30
DELTA, UTAH—Delta Deseret Sunday School bldg.	25
SHARON, PA.—Barn on farm of W. S. McConnell	40
BETHEL SPRINGS, TENN.—High school bldg. destroyed	25
TRINIDAD, COLO.—Bldg. occuped by Royal Supply Co.	40
IRON RIVER, MICH.—Bldg. of Iron Range Bus Co.	50
HETTINGER, N. D.—Garage of Fitch Bros. Motor Co.	40
CHICAGO, ILL.—Apt. bldg., 4457 Berkeley Ave.	45

Week Ending March 29

E. STROUDSBURG, PA.—Grand Theatre, owner, V. Austin	40
TARRYTOWN, N. Y.—Ice house of H. K. Browning	25
BROOKLYN, N. Y.—Garage of Teitelbaum Bakery	85
PEORIA, ILL.—Peoria Market destroyed	800
BATH, N. Y.—W'h'se, occupied by A. & P. Tea Co.	25
NEWPORT, ARK.—Five business bldgs. destroyed	70
SEATTLE, WASH.—Bldg. occupied by Enterprise Co.	25
LEWISTON, ME.—Several residences and stores	80
WASHINGTON, PA.—Business property damaged	80
CAMDEN, N. J.—Bunkers of Camden Coke Co.	125
ST. CHARLES, ILL.—Bldg. occupied by St. Charles Fix. Co.	100
MEHANICSVILLE, N. Y.—R. A. Moore brickyard	200
NEW YORK, N. Y.—Murray Apts., 42nd St.	75
NEWARK, N. J.—Plant of Celluloid Corp., damaged	25
RANGER, TEX.—Shops of Chestnut & Smith Corp., 2 mi. W.	80
BAKERSFIELD, CALIF.—Bldg. occupied by Pioneer Mercantile	40
LIVERPOOL, N. S.—Factory of Millard Bros.	40
BIRMINGHAM, ALA.—Plant of du Pont Chemical Co.	1700
CLARIDGE, PA.—Property of Julio Zuccili	25
SCRANTON, PA.—Lackawanna business property	80
GRAND ANSE, QUE.—Bldg. on estate of Mrs. A. Stillman	25
STONEHAM, MASS.—Mayer's store damaged	25
SPLIT ROCK, WIS.—Knudsen's store and adj. bldgs.	30
DES MOINES, IA.—Moore Opera House, owner C. Bernstein	400
YOUNGSTOWN, OHIO.—Peoples Furniture Co., damaged	40
KANSAS CITY, MO.—Trinity Episcopal Church damaged,	40
RUSSELL, IOWA.—Business property destroyed	80
WEST CHESTER, PA.—Barn on estate of P. M. Sharples	55
MOBILE, ALA.—Steamer of Eastern Shore Transportation Co.	60
POCOMOKE CITY, MD.—Whse. of Marvel Packing Co.	30
CRESCO, IOWA.—Church of the Assumption	45
ZANESVILLE, OHIO—Palace Garden destroyed	160

New York Holds Lieutenant Examination

(*Continued from page 278*)

Company 99". If you sign anything else you will be disqualified and your papers will not be rated.

N. B. 2—In rating this report consideration will be given to the knowledge of the subject displayed by the candidate; but consideration will be given also to conciseness and brevity of expression. Elaborate discussions are not desired. Use enough words to express your ideas and no more.

Laws and Ordinances, Weight 2

1. Set forth adequately the provisions of the Code of Ordinances in so far as they relate to:

(a) The heating of a laboratory in a wholesale chemical supply house.

(b) The designation (signs required) on pipes in a refrigerating plant.

(c) The removal of scraps and other refuse material from a plant manufacturing nitro cellulose.

(d) The type of container required for holding calcium carbide.

2. Under the rules of the Board of Standards and Appeals, smoking is permitted in factories under certain conditions.

(a) With what conditions, general and special, must the owners comply in order that such act would be permitted on their premises?

(b) Enumerate the classes of establishments in which smoking would be permitted under the rules of the Board of Standards and Appeals.

3. The following order was issued by the Fire Commissioner to the owners of a cap factory in a fireproof building: "Remove all partitions not constructed of incombustible material."

If the aforementioned owners of the cap factory desired to make a petition for a variation or modification of the order, what items of information, supported by the laws and ordinances, could they submit in their application?

4. Explain clearly the operation and use of the following interior manual fire alarm signal systems.

(a) the mechanical system

(b) the non-coded closed circuit system

(c) the coded closed circuit system.

Rules and Regulations, Weight 1

1. (a) What action should be taken by a member assigned to make building inspections when he observes minor violations of the law?

(b) What action should be taken by a member assigned to make building inspections when he finds doors locked or bolted on the premises he is inspecting?

(c) A member of the uniformed force obtains a loan from a credit union, inducing a fellow-employee to indorse the note for same. He subsequently fails to meet the obligations to repay such loan. Describe the various steps in the bringing of charges that may be brought against the member.

2. (a) If you were in charge of a company, what action would you take under the following conditions? Employees of a public service corporation, without notifying you or the Fire Department start to dig a trench in front of the fire house which will interfere with the exit of the apparatus.

(b) What instructions are to be given by Company Commanders to firemen assigned to inspection of standpipe equipment in buildings in course of construction? How frequent are such inspections?

3. Below are listed three sets of circumstances which occur while you are in command of an engine company. State clearly your procedure in each case together with brief quotations from the Rules to sustain your answer.

(a) A collision between a Mack truck and a pleasure car occurs directly in front of company quarters, which results in the complete demolition of the pleasure car and the consequent obstruction of the street.

(b) Fireman Jones loans a portable light to a Fire Marshal who is making an investigation of the origin of a fire which occurred in your district.

(c) Fireman Smith, who is the building inspector of your company, is reported to have distributed the business cards of the Eureka Sprinkler Company to property owners in the company district.

4. What record, if any, would you direct to be made in the company journal in each of the following cases:

(a) Fireman John Doe falls and injures himself severely while washing the windows in the fire house.

(b) Gasoline is received from the supply depot.

(c) A summons in a civil action is left at the desk for Fireman J. Smith.

(d) A citizen tells you that a water main in an adjoining block, is leaking.

In each of the above cases, what additional action, if any, must be taken by the officer in command?

Fixing Liability for Fire

The Fire Prevention Committee of the Detroit Board of Commerce is studying the possibilities of legislation designed to make the person who disobeys an order from the Fire Marshal's office, liable for the expense of extinguishing any fires that may result from the defects so pointed out. This fixing of liability now exists in a number of American cities.

Fighting the Church Fire

(*Continued from page 272*)

practically necessary, to operate entirely from the outside of the building once fire has gotten hold of the structure. This slows up work, and results in a marked lack of effectiveness in bringing the blaze under control. However, it is a question of safety to men rather

Fig. 4. Drowning Out a Fire With Big Streams After It Has Opened Up the Roof.

than hazardizing the lives of men in an endeavor to save a little additional property.

In a recent large church fire in New York City blocks of granite were displaced through roof beam expansion and distortion, and developed a dangerous situation for the men to face.

Fighting the Fire

Where a church of large size is fully involved with fire, large streams are absolutely necessary. The high ceiling, the large area of the auditorium, and the intense heat present make necessary the use of streams of great range and volume. While even such large streams cannot penetrate the blind attic, they can at least kill the fire in the main auditorium of the church and leave the work of handling the attic fire to outside lines operated from adjoining structures or from aerial ladders.

The usual procedure is to stretch the first line to the main entrance of the church, using large size nozzle and holder, if necessary, and sweep over the ceiling, and walls of the church. Additional streams preferably from deck guns, operated from windows on the side, will usually reach the bays and aid materially in killing the greater volume of fire.

If windows are provided in the front part of the structure, and if there is no vestibule cutting them off from the auditorium, deck guns again play an important part.

If there is a blind attic, aerial ladders may be raised at once and lines put in operation through the roof, to hold the fire and prevent collapse of roof structure. There is little use in operating on the roof from neighboring structures, unless it has been opened up either by the fire or by the men operating from ladders.

After heavy lines are gotten into operation, and are holding the main body of the fire, then additional lines may be stretched to the rear of the church building, behind the pipe organ, and in the rooms usually found at the rear.

Additional lines can then follow, in order, into the basement, after ventilation has been provided by opening basement windows on all sides.

After such assignments have been made, and fire is being held, then lines may work in close into building and get streams into operation in concealed spaces such as plaster partitions and other furred-in spaces.

Avoid Unnecessary Damage

Incidentally, vestments, altars and statuary are very expensive. Fixed marble work, and stained glass windows, also represent large investments. Unnecessary damage should be avoided when operating in the neighborhood of such objects, for in this way the salvage may be increased tremendously at comparatively little effort.

In high church structures, provided with openings in the walls such as stained glass windows, water towers may sometimes be used with effect.

Officers in charge of a church fire must take particular care to protect men against falling slate shingles, masonry work, and on the inside of the building, falling ceilings and roofs.

Church fires are devoid of poisonous fumes, which make the operation a little simpler than some industrial fires.

However, the nature of construction of the average church building produces a fast burning fire with plenty of heat and smoke, which adds considerably to the discomfort of the men operating at such a fire.

Fig. 5. Above the Arched Ceiling and Below the Roof is a Large Concealed Space the Size of the Entire Building.

The Round Table

(*Continued from page 274*)

should be stationed to watch this particular box and endeavor to catch the offender.

H. J. Calahan, Chief, Fort Dodge, Ia.: False alarms sent with malicious intent have practically been done away with here. We had only four such alarms during 1928.

Persons caught sending in false alarms are fined and in some instances sentenced to prison.

The cooperation of principals of schools and supervisors of playgrounds should be solicited in preventing false alarms. We have found in every instance that they are willing to assist the department in any way possible.

We have a few cases where false alarms are turned in, but with good intention. These, of course, cannot be wiped out. I believe it is better to go to a few alarms that prove false than to arrive at a number of fires too late, which would be the case if every citizen had to be absolutely certain before turning in an alarm.

Whenever false alarms occur, warnings are issued and rewards offered through the newspapers. We have notices posted on every box stating that violators will be fined one hundred dollars or serve thirty days in jail. Also twenty-five dollars reward will be given to anyone supplying information leading to the arrest and conviction of offenders.

Daniel H. Shire, Chief, Mason City, Ia.: We only have telephone fire alarms. When the number is called, it is supervised at the telephone office, which enables us to locate the call if the alarm is false. The fact that these phone calls can easily be located is known. This method practically eliminates false alarms in this city. We had only two cases in 1928, one of which was a girl twelve years old and the other a boy of ten. Both of these children were located and were punished by having their names published in the newspapers.

Out of two hundred and five calls during 1928 only the two mentioned above were false, which is a very low average.

Fred. J. Washburn, Chief, Auburn, N. Y.: Lectures on the seriousness of sending in false alarms, should be given to school children and also to Boy Scouts.

After a false alarm has been sent in articles should be published in the newspapers on the needless racing of fire apparatus through the streets, risking the lives of firemen and citizens.

We have very few false alarms. Some years ago a driver of a hook and ladder truck lost his leg when thrown from the truck. This incident has not been forgotten by the public here.

H. L. Taylor, Chief, Rome, Ga.: We have a standing reward of twenty-five dollars for anyone supplying information leading to the arrest and conviction of a person sending in a false alarm.

The fact that severe punishment will be given to anyone violating this law is always kept before the public. This tends to reduce the number of false alarms to a minimum.

The penalty for this offence is from one dollar to one thousand dollars, or six months imprisonment.

James W. Swan, Asst. Chief, Seymour, Conn.: We have been very fortunate in having only two false alarms in seven years. One of these was turned in by an automobile party passing through our town on Halloween eve and the other by a party of strangers from out of town who caused a disturbance in a restaurant and were asked to leave. After leaving the restaurant they turned in an alarm of fire.

We try to make friends with the young boys as most of the trouble, I believe, comes from them.

Joel Tydeman, Chief, Hempstead, N. Y.: I have tried time and time again to devise some means of reducing the number of false alarms but up to the present time have not been successful. Those turning in the false alarms either pull a box or use a public telephone and it is almost impossible to locate the guilty party.

Frank C. Hall, Chief, Athol, Mass.: Several years ago we were troubled with a great many false alarms. To remedy this situation, the Board of Fire Engineers offered a reward for information leading to the conviction of anyone sending in a false alarm. Cards with this notice are posted at each fire alarm box. This method has proven very effective and we have had very few false alarms since.

D. A. Brotherton, Chief, Burlington, N. J.: We have been very fortunate in having very few false alarms and certainly hope that this condition continues to exist.

A. S. Warren, Chief, Dodge City, Kans.: Up to the present time the false alarm question has not been serious with us. During the year 1928 we had only thirteen false alarms. Six of these were turned in by the same person who had a mania for watching fire apparatus respond to alarms.

H. J. Williams, Chief, Macon, Ga.: We have found that the number of false alarms can be reduced by gaining the confidence and friendship of the public, and by soliciting their cooperation in practicing fire prevention in the home and in business.

Robert H. Grant, Chief, Beverly, Mass.: Best results in reducing false alarms can be brought about by cooperation between the police and fire departments in apprehending those who violate this law. In the case of small children home influence can be used to good advantage in punishing the offender.

A. R. Cumming, Chief, Houlton, Me.: The police department has cooperated with us by having special watch of fire alarm boxes at night to prevent boys from turning in false alarms out of pure mischief. A reward is offered to anyone supplying information leading to the arrest and conviction of a guilty party.

C. W. Royce, Chief, Joliet, Ill.. We have this condition pretty well under control by keeping a close watch on all boxes that are liable to be pulled by a false alarm fiend.

James D. Kailor, Chief, Columbus, Ind.: Many false alarms are prevented by having regular inspections made of fire alarm boxes. We have been fortunate in having about only one false alarm a year. This usually occurs on New Year's eve. A penalty of fifty dollars fine is imposed on anyone committing this offence.

Thos. Watson, Chief, Lincoln, Ill.: We have the following city ordinances to cover false alarms:

"Whoever shall, without reasonable cause, by outcry or otherwise, make or circulate any false alarms of fire within the city of Lincoln, shall be subject to a penalty of not less than five dollars, nor more than one hundred dollars."

Howard Strut, Chief, Bluffton, Ind.: During the four years I have been chief of this department we have never had a false alarm.

Melville Haines, Chief, Hastings on the Hudson, N. Y.: We have caught several young men turning in false alarms. They were punished by being forced to pay a large fine for committing the offense. This has served as an example to other would be violators.

Alvin Gelbhar, Chief, Cushing, Okla.: We average about six calls a month or about seventy calls a year. In five years we have had only six alarms which proved to be false. About six years ago some children turned in a false alarm. They were punished for doing so. Since that time we have not been bothered as this served as a lesson to other children.

Wm. F. Mader, Chief, Bucyrus, Ohio: We have very little trouble with false alarms in this city. There is a city ordinance imposing a heavy fine on any person found guilty of deliberately turning in an alarm which is false.

H. A. Vincent, Chief, Herkimer, N. Y.: The following city ordinance is provided to take care of the false alarm question:

"No person shall wilfully give or cause to be given, or make any false alarm of fire.

"Any person violating this section shall forfeit and pay to the village of Herkimer, N. Y., a penalty not exceeding one hundred dollars and in addition thereto, the violation of this ordinance shall constitute disorderly conduct and any person violating this section shall be a disorderly person, and as such, punishable by a fine not exceeding fifty dollars."

A reward of fifty dollars is also offered to anyone for information leading to the arrest and conviction of the person or persons guilty of sending in false alarms.

G. Harris, Chief, La Grange, Ill.: We have been very fortunate here as we haven't had a single false alarm in two and a half years.

E. J. Brown, Chief, Binghamton, N. Y.: All false alarms are immediately turned over to the detective bureau to investigate. In most cases the offenders were children.

Answers to Previous Questions

H. E. Nissen, Chief, Winston-Salem, N. C.: Accidents are prevented by seeing that each piece of apparatus is kept in perfect condition at all times.

In responding to fire alarms, each piece of apparatus is routed, insofar as possible, to avoid meeting at a street intersection or crossing. Every fire department truck is equipped with a siren, locomotive bell, whistle and a red lamp for use at night.

When apparatus is approaching, all traffic is stopped by means of the traffic signals.

While there is no speed limit set for fire apparatus, each officer in command is held responsible for the safety of the apparatus and the men under him. The driver is instructed to be governed by the orders of the officer in charge. Such orders are transmitted by hand pressure on the leg of the driver to avoid any misunderstanding, or the possibility of that alibi "I didn't hear you."

While there are many city ordinances governing fire apparatus, it is unfortunate that these ordinances are not strictly adhered to by the public. Ninety percent of the dangers to apparatus could be eliminated if everyone observed all the laws pertaining to fire apparatus.

Enforcement of the law is beyond a doubt the master key to the situation, but this cannot be obtained without the absolute cooperation of the police department in punishing offenders.

William Nill, Chief, Hammond, Ind.: Good judgment on the part of the driver is the first and most essential means of preventing accidents to apparatus responding to fires. The driver must have the apparatus under control at all times, especially when passing red light and street intersections. There is no set speed limit for fire apparatus in this city. Up to the present time we have been fortunate in having no accidents.

A. E. Henry, Chief, Prescott, Ariz.: Drivers should know that the apparatus must be under control at all times. When I was asked what I meant by "apparatus under control," my answer was: To be able to stop the apparatus in case of an emergency. We have no speed limit for fire apparatus but drivers are instructed to "proceed with safety." We have been very fortunate in having only two accidents to our apparatus in sixteen years.

W. H. Funderburk, Chief, Springfield, Ill.. Carefulness is our main thought at all times. The speed limit of fire apparatus is twenty-five miles an hour in open districts and less in congested districts. We also comply with all traffic regulations when returning to quarters.

Claude Summers, Chief, Norman, Okla.: Accidents to apparatus can be prevented by having the apparatus inspected to see that it is in perfect condition. The speed limit of fire apparatus in this city is thirty-five miles per hour.

Sullivan Promoted to Succeed Fischer

The appointment of Arthur G. Sullivan as Manager of Motor Fire Apparatus Sales to succeed Fred Fischer, resigned, has just been announced by the American-LaFrance & Foamite Industries, Inc.

Mr. Sullivan, who took over his new duties April 1, has been Assistant Manager of this important division of the company's business for several years, started with the American-LaFrance organization fourteen years ago as a traveling service representative, later being placed in charge of all field service in the United States. He went from there to the Sales Department, and worked his way up to his present position.

Fred Fischer

A. G. Sullivan

With his wide experience in the fire department field, covering in all a period of twenty years, and a personality that has won him a host of friends everywhere, Mr. Sullivan is regarded as being unusually well equipped to carry on his new work. He will make his headquarters at the company's executive offices in the Fisk Building, New York City.

Mr. Sullivan's predecessor, Fred Fischer, one of the best-known figures in fire circles, has been with the company a great number of years. He has saved his money, it is said, and plans virtually to go into retirement, to take a well-earned rest.

TEXARKANA CHIEF TO HEAD SOUTHWESTERN FIRE GROUP

Convention Held in Shreveport, La., With Chief Flores as Host—Next Gatheringe to Be Held in Oklahoma City—200 Chiefs Attend

AN interesting program was arranged for the two hundred chiefs who attended the annual convention of the Southwestern Fire Chiefs Association that was held in Shreveport, La., March 25, 26 and 27. It was agreed that Chief Flores proved to be a very good host. Chief J. E. Taplin, Blackwell, Okla., Fire Department, President of the Association, presided at the sessions.

Chief J. E. Taplin, Ex-President, Blackwell, Okla.

At the election of officers, Chief W. J. Springer of Texarkana, was elected president. The other officers are Chief S. J. Flores, first vice-president and Chief George Goff of Oklahoma City, second vice-president. Chief Tom Lyle of Okmulgee, Okla., was re-elected secretary-treasurer.

The following were elected state vice-presidents: Louisiana, Chief Carrol, Walsh, La.; Texas, Chief C. E. Bottbitts, Huntsville; Oklahoma, Chief Ray Pence, Healdton; Arkansas, Tom Morton, Camden; New Mexico, Chief R. V. Miller of Clovis.

Beaumont, Tex., and Oklahoma City presented bids for the 1930 convention and the latter city was finally selected.

Chief John Evans, of New Orleans, representing the International association, responded to the address of welcome made by the mayor of Shreveport.

The list of speakers included Chief D. W. Brosnan of Albany, Ga., Chief W. J. Springer of Texarkana, George D. Suter, chief engineer of the Arkansas Fire Prevention Bureau, Chief John Woody of Austin, Tex., Frank G. McElroy, president of the Louisiana Fire Insurance Society, Clarance A. Goldsmith, assistant chief engineer of the National Board of Fire Underwriters and others.

Many means for entertainment were provided. There was a chicken barbecue on the Spence Flournoy farm and following this a visit to the broadcasting station of KWKH. The ladies were the guests of Mrs. S. J. Flores in an automobile ride about the city and at an entertainment at the Women's Department Club. They were also guests at a chicken dinner. A banquet was held at the Washington Hotel, and the chiefs were taken on an inspection tour of the Shreveport Fire Department.

Resolutions of thanks were given the local committee for their work in making the convention such a success.

Greater Protection Urged for Hollywood—Chief Ralph Scott of Los Angeles has urged that better fire protection facilities be provided for Hollywood, Cal.

Ft. Wayne, Ind., Rejects Bids—All bids for supplying an aerial ladder truck have been rejected by Fort Wayne, Ind. Only $15,000 is available for the new truck and the prices submitted were well above this figure.

Bonduel, Wis., Receives Farm Protection—Bonduel, Wis., will receive fire apparatus for protection of rural property. The apparatus will be paid for by the village and an association of farmers.

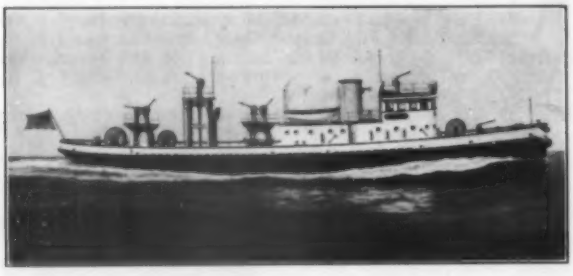
NEW YORK CITY TO BUILD ELECTRIC DRIVE FIREBOAT

Bids Will Soon be Invited for Its Construction—Boat to Make Speed of Eighteen Miles an Hour—Engines Gasoline Operated

By WM. JEROME DALY

FIRE COMMISSIONER JOHN J. DORMAN of New York has announced that the Fire Department is soon to invite bids for the construction of a new steel fireboat to cost approximately $320,000. The boat will be completely devoid of wood in its construction and will be operated by gasoline—the first of its kind in New York City.

The new boat, as designed by Henry J. Gielow, New York naval architect, in accordance with the recommendations



New Fireboat to be Built for New York City

of Commissioner Dorman, will be 130 feet in length, with a beam of 26 feet, and will draw 7½ feet of water.

The craft will have five main engines of 548 h.p. each, or a total of 2740 h.p. The power will be transmitted to two electric motors of 1165 h.p. each operating at 625 volts and at 425 r.p.m. to propell the twin screws. The gasoline engines running at 1150 r.p.m. are guaranteed to develop sufficient power to drive the boat at a speed of eighteen miles an hour. The motor generators will make 425 r.p.m. The engines will be easily started and the propelling motors conveniently reversible. There is to be a dual control either from the engine room or the pilot house.

Commissioner Dorman states that one of the chief features of the new fireboat is the low initial cost.

The engine specifications are flexible enough to permit competition between the Sterling, the Winton or equal motors. The gasoline consumption will be fifty gallons, per engine, per hour, or 250 gallons total. The storage tanks, one forward and the other aft, will carry a total of 6,050 gallons of gasoline. These tanks are to be of the most modern, non-explosive type, protected by the aqua system, with no air space above the gasoline level. The tanks will also have baffle plates to resist swashing of the gasoline. Each tank is to have a housing or encasement guarded by a carbon dioxide fire-fighting system.

The ventilating system will be reversible; i.e., the fans can be reversed if the craft is in a flame swept area so as to exhaust the warm air from within and prevent suction of flame or fire from the exterior.

The new craft will have four 2-stage Le Courtney, Worthington, or equal centrifugal pumps of 4,000 gallons capacity and 1150 r.p.m., each at a pressure of 150 pounds. Two of these in series will pump 4,000 gallons at a pressure of 300 pounds. The suction of water intakes for fire fighting are unique. There are to be two strainers on each side of the hull and any one of the four can be segregated. The total pumping capacity will be 16,000 gallons per minute at 150 pounds pressure. A magnetic clutch between engines and pumps can engage both the propelling and the pumping units simultaneously. With the pumps working at maximum, there will still be available 486 h.p. for each of the twin screw motors.

The boat will be heated by steam generated by fuel oil burners. While moored at the wharf awaiting an alarm of fire, all auxiliary lighting, ventilating and sanitation systems will be maintained by electricity supplied by portable connection at the dock to the local public utility company, on a metered basis.

As a fire fighter, the new boat will carry 4,000 pounds of fire foam for combating oil and gasoline fires. She is to have one small auxiliary pup boat equipped with a fire pump of 150 gallons capacity to cope with fires under piers and wharves. On the main deck forward she will have one deck nozzle of 2,000 gallons per minute capacity; amidships will be two hose manifolds each containing twelve 3½-inch hose outlets. Each of these manifolds will be surmounted by nozzles of 2,000 gallons each.

Atop the wheel house there will be two nozzles and three more will be mounted on the fighting-mast astern. The craft will carry 4,000 feet of hose on three reels.

Radio has not been overlooked—the boat will have an R. C. A. set for both wireless telephone and telegraph, receiving and sending so as to keep in communication with the Municipal Broadcasting Station WNCY.

Chief's Car Crashes Into Apparatus

One fireman was killed, another seriously injured, two slightly hurt and a civilian injured at Quincy, Ill., when the chemical engine from Station No. 8 and the coupe driven by Chief Ed Yates collided at Eighteenth and Broadway while in response to an alarm four blocks from the scene of the crash. Ernest J. Yost, driver of the engine, was killed.

Chief Yates received bruises on head and back.

By a strange coincidence, the alarm that resulted in the crash came from the home of a fireman who was injured in the crash. Chief Yates and a mechanic, Poepping, left department headquarters shortly before the alarm was sounded at 4:48 o'clock in the afternoon. Companies 2, 6 and 8 responded.

As the chief reached Sixteenth and Vermont, three blocks from the scene of the accident, they heard the siren of Company No. 2 as it went out on Broadway. The chief stopped his car to see which way the apparatus was going. As it passed a block north of him, he swerved his coupe and followed, not knowing where the alarm was from.

As they reached Eighteenth and Broadway, one of the busiest sections in the city, the coupe struck Engine Company No. 8 broadside, causing it to skid on the asphalt pavement, strike a curbing on the northeast corner and turn over on its side, piling up against a telephone pole.

Yost, the driver, was thrown clear of the machine, landing eight feet in front of it on his stomach. One fireman who was winding the siren and another on the right running board, were caught beneath the wreckage. A Babcock was turned on, which squirted a chemical into the faces of the two men.

Frantic efforts were made to stop Chief Yates by men standing on the corner. He mistook their signals, however, for the location of the fire. He momentarily took his eyes off the

The Remains of Chief Yates' Car

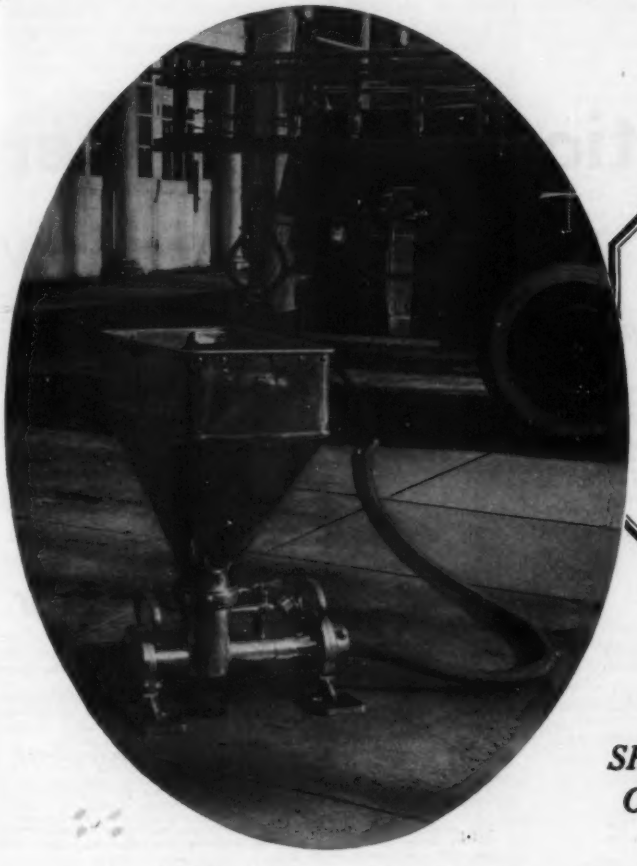
street and looked north for the blaze. At that moment the chemical, a Nash truck, equipped with two 80-gallon tanks, hose and other equipment, flashed in front of him. There was no chance to stop or apply brakes.

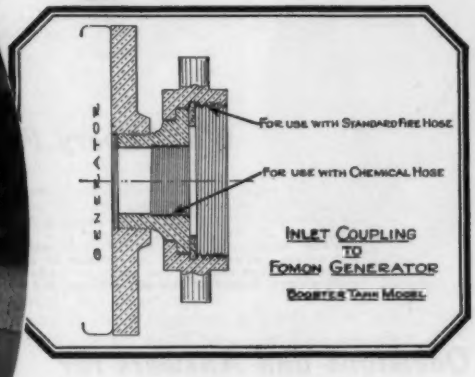
EARL NOLAN

Toledo to Receive Four New Pumpers—Four new pumpers are to be delivered to Toledo, Ohio. With the new apparatus, only one of the old type steamers will be in service. The new pumpers cost $36,000.

Plans Made for Central District Convention—Plans are being made for the annual convention of the Central District Volunteer Firemen's Association of Pennsylvania that will be held in Ebensburg, Pa., July 1 and 2.

WHY THE FOMON

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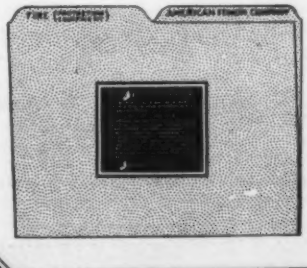

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Eureka Makes Barry District Manager

Announcement of the appointment of William A. Barry as Manager of the Metropolitan District of the Eureka Fire Hose Mfg. Co., effective April 15th, has just been made by J. A. Green, Vice President of the Company.

William A. Barry

Mr. Barry, whose advancement follows the resignation of Frederick E. Bensen, has been with the company for the past twenty-four years, working his way up from the position of office boy. More recently he has covered the Long Island territory.

The Metropolitan District which Mr. Barry will now be in charge of, embraces Connecticut, Rhode Island, northern New Jersey, southern New York, and Long Island. Headquarters will be maintained at 50 Church St., New York, as heretofore.

Fire Damages St. Petersburg Hotel

A short circuit in the top of an elevator shaft in the Alexander Hotel in St. Petersburg, Fla., is held responsible for a fire that damaged several rooms.

When the firemen arrived, they immediately rushed to the top of the building where they found the top of the elevator shaft on fire. The blaze was extinguished in less than one-half hour. Chief Towey of Newark, N. J., who was there at the time and saw the department in action, complimented the St. Petersburg, Fla., firemen on the manner in which they handled the fire.

Chiefs Consider Manhole Explosions

Walter L. Wedger, former state chemist of Massachusetts, and John Campbell, of the special service department of the Edison Electric Illuminating Company of Boston, were the principal speakers at the March meeting of the Fire Chiefs' Club of Massachusetts which was held at the Parker House in Boston on March 30.

The meeting was preceded by a luncheon at which the members of the Board of Directors of the New England Association of Fire Chiefs occupied seats at the head table with President Allen and Secretary F. Burt Jaquith.

Announcement was made of the election of Chief Soper, of Mansfield, as a member of the club. Among the guests were Malcolm E. Midgeley, city clerk of Worcester; John Wesley Edmands of the Central Railway Signal Co.; and George W. Austin and Herbert K. Pratt, of the Box 52 Association.

The subject for discussion was the recent series of manhole explosions which caused damage to store windows on Summer Street and injuries to pedestrians from flying glass.

Mr. Wedger and Mr. Campbell told of investigations that are being made as to the causes of the explosions, the exact nature of which has not yet been definitely determined.

Among those taking part in discussion were Chief Daniel F Sennott, of Boston; Ex-Chief Peter E. Walsh, of Boston; Supt. of Fire Alarms George L. Fickett, of Boston; Chief James M. Casey, of Cambridge; and Chief Selden R. Allen, of Brookline.

HARRY BELKNAP.

Elmira Plans School

A sectional school for fire departments located in the vicinity of Elmira, N. Y., may be started some time in June as a result of recommendations made at the Mayor's Conference. Elmira will be the training point for firemen from Corning, Bath, Watkins, Hornell and Waverly. Departments from Elmira Heights, Horseheads and Sayre will also participate.

New York State will be divided into twelve zones, and it is planned to establish a school in each district. According to present plans, training points may be established at Elmira, Buffalo, Rochester, Syracuse, Utica, Watertown, Schenectady, Albany, Poughkeepsie, Yonkers and Binghamton.

Peekskill, N. Y., to Buy New Apparatus—Peekskill, N. Y., is considering an appropriation of $26,000 for the purchase of two pieces of fire apparatus.

Fred Bensen Goes With Ahrens-Fox

On April 1st Fred E. Bensen became associated with the Ahrens-Fox Fire Engine Company as Eastern Selling Agent, succeeding J. A. Prescott. In taking on this new Work, Mr. Bensen is resigning as Metropolitan Sales Manager of the Eureka Fire Hose Mfg. Company with which organization he has been connected for the past twenty-two years.

The territory he will cover includes New York, New Jersey, Virginia, Delaware, Maryland, eastern Pennsylvania and western Connecticut. Headquarters have been established on the 23rd floor of New York's new fifty-six story skyscraper, the Chanin Building, 42nd St. & Lexington Ave., opposite the Grand Central Station. Mr. Bensen will have on his staff Howard A. Long and Harry Hewson, as well as two factory delivery engineers.

Fred Bensen

It is Mr. Bensen's plan to conduct the convention trips of the Eastern Regulars as heretofore, and he is already arranging a special party to go to Birmingham.

New York Sells Old Apparatus

Unlike antique furniture and first editions of books, there appears to be little desire for old fire apparatus. This was learned at the auction held by the New York Fire Department at which time eighty-nine condemned pieces of fire apparatus and equipment was sold for $6,773.

Included in the sale were thirty-four hose wagons which brought an average price of forty dollars each; six motorized steam fire engines, five tractors, ten automobiles and a miscellaneous assortment of hose, motors, cables, wire and scrap iron. The buyers had little interest in fire equipment. They were mostly junk dealers.

N. F. P. A. Announces Nominations

The nominating committee of the National Fire Protection Association has selected the nominees for the coming term. These men will be voted on at the annual meeting to be held in Memphis, Tenn., at the Hotel Peabody, May 13-16. The nominations made are:

Frank C. Jordan, Indianapolis, president; Frederick T. Moses, Providence, first vice-president; Sumner Rhoades, New York, second vice-president; Franklin H. Wentworth, Boston, secretary-treasurer and managing director; Albert T. Bell, Atlantic City, chairman of executive committee; for executive committee for three years, Eugene Arms, Chicago, W. H. Blood, Jr., Boston, Eugene Chrystal, Rochester, George W. Elliott, Philadelphia and C. W. Pierce, New York; for executive committee, one year, George F. Lewis, Toronto.

Special trains will leave from Chicago and New York for the convention. The Chicago train will be in charge of James S. Mahan, 222 West Adams St., Chicago and the New York special in charge of C. J. Peacock, 109 Leonard St., New York City.

Here Is a Real Record

In a period of forty-eight hours, 291 calls were received at the fire alarm bureau of the Detroit Fire Department, according to Louis Gascoigne, superintendent. This made an average of one alarm each ten minutes. It was the busiest period in the history of the department. Over 150 fires were reported in the first twenty-four hours and 141 came in the second half of this period. These figures are even better than the Fourth of July records previously established.

A number of the alarms were for grass fires in the outlying districts and there were a number of roof and chimney fires. Only one fire of this number caused considerable damage.

Ardmore, Pa., Orders Aerial Truck—A Mack aerial truck has been purchased by Ardmore, Pa., at a cost of $16,000.

New House Opened in Norwalk, Cal.—A new fire house has been formally opened in Norwalk, Cal. The Los Angeles County Fire Department band furnished music. Refreshments and speakers were provided as part of the event.

PROPOSED IMPROVEMENTS

Oakfield, Genesee Co., N. Y.—Reports state city voted in favor of purchasing new fire equipment.

Addison, Steuben Co., N. Y.—City voted appropriation March 19 for purchase of additional fire equipment.

Morn, Sherman Co., Oregon—Committee of American Legion appointed to meet with City Council to discuss purchase of fire apparatus and organization of a volunteer first department.

Charleston, Kanawha Co., W. Va.—Plans being considered for erection of fire station to protect Kanawha City, now a part of Charleston.

Breckenridge, Wilkin Co., Minn.—City contemplating purchase of new chemical car for fire department. R. R. Waite, City Clerk.

Paulsboro, Gloucester Co., N. J.—Borough Council considering purchase of two chemical cars, at estimated cost of $15,000. Henry L. Sinexon, Chief.

Erie, Erie Co., Penn. — Safety Director W. G. Hass to recommend $90,000 for purchase of site and erection of new fire headquarters, according to reports.

Syracuse, Onondaga Co., N. Y.—Plans being drawn for new 2 story first station on Salt Spring Road at Demong Street. Estimated cost $50,000.

Salesmen Wanted

To handle excellent fire department sundries. Some good territory still open. Write for particulars. P-B Mfg. Co., Inc., 4567 Swan Ave., St. Louis, Mo.

4-3-17,5-1

For Sale
Copper Chemical Tanks

from modern Fire Dept. Apparatus. 50 gal. capacity. In perfect working order. Original cost $350 each Will consider any reasonable offer.

W. E. Andrews,
City Pur. Agent,
Rochester, N. Y.

3-20,4-10,17

CONVENTION DATES

April 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Yuma, Ariz. Secretary, Chief W. J. Nemevk, Douglas, Ariz.

April 24—EGYPTIAN FIRE FIGHTERS' ASSOCIATION. Meeting at Flora, Ill. Secretary, O. C. Forsman, Flora, Ill.

April 24—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. 3rd Meeting, Fire Headquarters, White Plains, N. Y. Secretary-Treasurer, Lieut. E. Riviere, 60 Wendt Ave., Larchmont, N. Y.

April 30-May 2—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Fire College and Drill School, Asheville, N. C.; Secretary, John L. Miller, Concord, N. C. Chairman Arrangements Committee, State Fire Marshal Sherwood Brockwell, Raleigh, N. C.

May 13-16—NATIONAL FIRE PROTECTION ASSOCIATION (International). 33rd Annual Meeting Memphis, Tenn. Technical Secretary, Robert S. Moulton, 60 Batterymarch Street, Boston, Mass.

May 27-30—OKLAHOMA STATE FIREMEN'S ASSOCIATION— 35th Annual Convention and State Firemen's Training School, Muskogee, Okla. Director of School, Chief J. E. Taplin, Blackwell, Okla. Secretary, Charles Slemp, 820 East 19th Street, Oklahoma City.

June—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 13th Annual Convention, and Tournament. (Tentative) Hot Springs, S. Dak. Secretary, M. C. Sullivan, Parkston, S. Dak.

June 3-6—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS, WOMAN'S AUXILIARY and FIRE SCHOOL. Respectively 14th, 43rd, 4th and 1st conventions and meetings, Newton, Kansas. Secretary for both Associations, Chief K. D. Doyle, Wamego,

June 7-8—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 11th Annual Convention, Harrisburg, Pa. Chairman Local Committee, W. L. Jauss.

June 10-12—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 11-13—FIRE CHIEFS' ASSOCIATION OF OHIO. (Change of date.) 12th Annual Convention, Assembly an Exhibit Rooms, Dodge and Smith Motor Sales Company Building, Sandusky, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Dept., Youngstown Sheet & Tube Company, Ohio.

June 12-13—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 24th Annual Convention, Bremer, Ind. Secretary-Treasurer, Hugh Russell, Bluffton, Ind.

June 12-14—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 14-15—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 23rd Annual Convention and Parade, Clifton Heights, Pa. Secretary, William E. Wunderlich, Lansdowne, Pa.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 18-20—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 40th Annual Convention, Troy, N. Y. Secretary, Chief Chris. W. Noll, Fire Department, Poughkeepsie, N. Y.

June 18-20—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 23rd Annual Convention, Binghamton, N. Y. Secretary, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June 20-21—EASTERN ASSOCIATION OF FIRE CHIEFS. 2nd Annual Convention, Hotel Pennsylvania, New York City. Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

June 21-July 7—INTERNATIONAL EXHIBITION OF FIRE APPARATUS AND CONGRESS OF WORLD FIRE PREVENTIONISTS. Under the patronage of the President of the French Republic, at the Grand Palais, Paris; 44th Annual Congress of the French Federation, Paris. General Secretary, Commandant G. Wattremez, Grand Palais, Avenue Alexandre III, Paris.

June 22-23—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. 2nd Annual Convention, Ventura, Cal. Secretary-Treasurer, G. E. Zimmerman, Fire Department, Coronado, Cal.

June 24-28—AMERICAN WATER WORKS ASSOCIATION. 49th Convention, Hotel Royal York, Toronto, Ont., Can. Secretary, Beekman C. Little, Rochester, N. Y. Office of Association, 29 West 39th Street, New York City.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Hotel Taft, New Haven, Conn. Exhibits, Second Regiment Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief John S. Pachl, Annex Fire Department, New Haven; Traffic Manager, Geo. F. Cobb, Boston.

July 9-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. William, Ludington, Mich.

July 9-12—DOMINION ASSOCIATION OF FIRE CHIEFS. 21st Annual Convention, Coburg, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

July 10-11—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 9th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

July 15-16—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 15-19—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, Hendersonville, N. C. Secretary, John L. Miller, Concord, N. C.

July 15-20—MARITIME FIRE CHIEFS' CONVENTION AND TOURNAMENT. Annual Convention, Moncton, N. B. Secretary, Captain K. J. McCrea, St. John, N. B., Can.

July 17-19—INDIANA FIREMEN'S ASSOCIATION. 12th Annual Convention, Gary, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

August—IDAHO FIREMEN'S CONVENTION. Tentative, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

August—MAINE STATE FIREMEN'S ASSOCIATION. 2nd Annual Convention (tentative, exact time to be announced later), Waterville, Me. Secretary, Earl E. Pratt, Fire Department, Auburn, Me.

August—UTAH STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention (tentative, to be decided later), Tooele City, Utah, Secretary, Harris E. Anderson, Fire Headquarters, Salt Lake City, Utah.

Aug. 7-9—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 16-17—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Plaza Theatre, East Hartford, Conn. Secretary D. W. Hartford, South Norwalk.

Aug. 20-23—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Aug. 28-30—VIRGINIA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Lexington, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 3-5—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS (Consolidated with former Missouri State Association of Fire Chiefs). Annual Convention, Jefferson City, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 20-21—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. J. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 15-17—RAILWAY FIRE PROTECTION ASSOCIATION. Annual Meeting, Toronto, Can., Secretary-Treasur, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

Firemen Uphold Their Honor

For a week, those who lived near the fire house in South Nyack, N. Y., or who chanced to go by the building, took an extra sniff for classification purposes, and then looked suspiciously at the firemen. The firemen in turn, could not understand why the fire house should suddenly become unpopular. The difficulty was solved by a small boy who saw a skunk crawl under the building. A trap was set and the chief of police fired three shots into the captured animal. Considering the distance at which the marksman stood from the black and white animal, the feat is worthy of mention.

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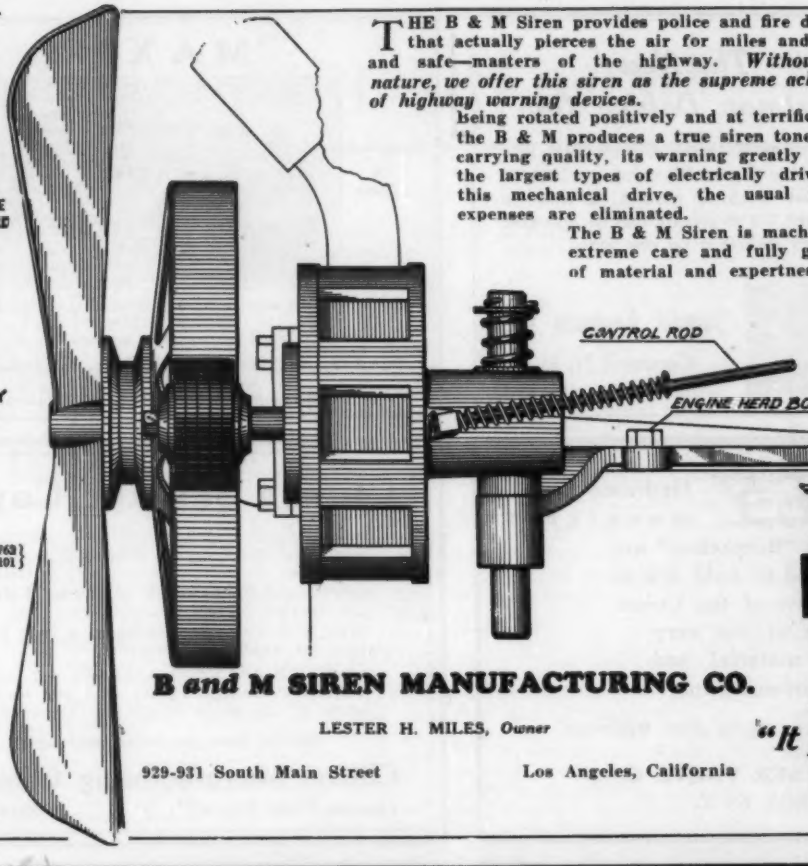

THE B & M Siren provides police and fire departments with a voice that actually pierces the air for miles and makes them absolute—and safe—masters of the highway. *Without a reservation of any nature, we offer this siren as the supreme achievement in the design of highway warning devices.*

being rotated positively and at terrific speed by engine power, the B & M produces a true siren tone of extreme volume and carrying quality, its warning greatly surpassing that of even the largest types of electrically driven signals. Because of this mechanical drive, the usual battery annoyance and expenses are eliminated.

The B & M Siren is machined and assembled with extreme care and fully guaranteed as to quality of material and expertness of workmanship.

Control is effected through foot or hand levers optionally, or both. Specifications for fire apparatus, etc., are carefully considered in the manufacture of these signals.

B and M SIREN MANUFACTURING CO.

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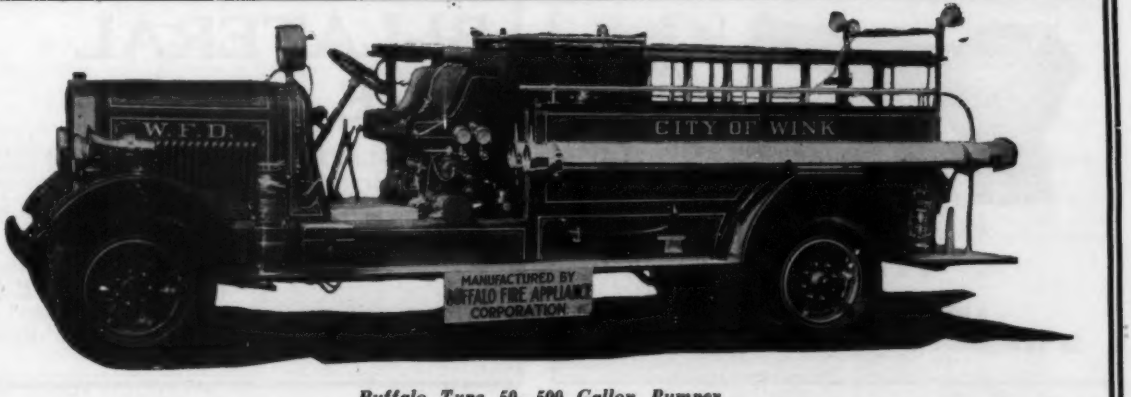

Buffalo Type 50—500 Gallon Pumper

Buffalo Pumpers are the most highly developed in design, construction and engineering standards and are intended for municipality, community and township fire protection.

Buffalo Pumpers are also noted for their efficiency and their great abundance of reserve power. They are pumpers with stamina and speed. All the above have to be credited for bringing great pumping merits for Buffalo Pumpers.

Buffalo Pumpers are given great and careful attention when under construction at our factory by engineers, both mechanical and designing, who have been in contact with the construction of pumpers for years.

Buffalo Pumpers range from 300 gallon capacity to 1000 gallon capacity.

IF YOU WANT SOMETHING BETTER BUY *"BUFFALO"*

Write for detailed specifications

BUFFALO FIRE APPLIANCE CORP.

44 CENTRAL AVENUE BUFFALO, N. Y.

Manufacturers of all types of Fire Apparatus

The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
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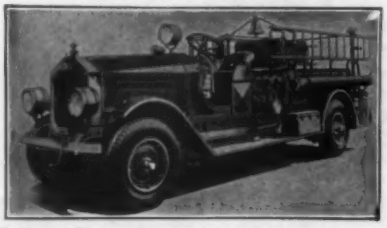
MAXIM

All Types



All Sizes

MAXIM dependable equipment gives the service demanded of **MAXIM** apparatus.
Send for complete information.
MAXIM MOTOR COMPANY, Middleboro, Mass.
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The Woodhouse Manufacturing Co., 156 Chambers St., N. Y.

COREY

Hydrants as manufactured by "Rensselaer" are being used to fight fire in every State of the Union. Made of the very best material and workmanship.

"The Rolls-Royce among Fire Hydrants"

RENSSELAER VALVE CO.,
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Clifton Salvage Covers

Are made of strong, heavy duck and lapped seams and are designed of such thickness and weight as to be light enough to be handled quickly and rigid enough for the most strenuous service. They are rubberized on both sides with a double coating of a high grade, long life, rubber compound.

CLIFTON SALVAGE COVERS are built to stand the heaviest abuse and are used by many of the large Protective Departments.

May we send you further particulars?

Clifton Manufacturing Company
Jamaica Plain District :: Boston, Mass.

Le Baron Air Whistles

The most dependable whistle for fire departments. In use in over 75 fire departments and still going strong.

WE ARE STILL IN BUSINESS

Have you a Blanchard Angle Nozzle?

ARTHUR H. BLANCHARD
25 Hampshire Street :: Cambridge, Mass.

BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
Canal St. Station /
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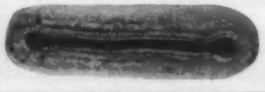

If you purchase **BI-LATERAL FIRE HOSE** it will increase the value of your hose-carrying apparatus more than the cost of the load of Bi-Lateral Fire Hose.

We can load from 25% to 33⅓% more and when coupled with rocker lug couplings the Bi-Lateral hose makes an apparatus one to be proud of and as near perfect as possible to do quick and efficient service.

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service
Full Line Fire Dept. Supplies and Equipment
New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.
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EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

FALSE ALARMS

—Drawing by "Art" Espey

Believe It or Not

Here is an incident that Ripley may add to his famous "Believe It or Not" series. A social secretary of the Y. W. C. A., who was visiting her parents in Ohio, walked under a wall bracket from which the cord was hanging. It came in contact with a hairpin in the lady's hair—the rest happened in quick succession. Sparks shot out. The hairpin melted from the short circuit, and the hair caught fire. The secretary now has great respect for the powers of electricity.

NO COMPLIMENT

Jones called with a message for the officer in charge who at that moment was not in. While waiting, he went to the recreation room where some of the men were idling away their time, and started to play a popular tune on the piano. When he finished he turned to the man nearest him and said:

"Well, what do you think of that?"

"I can't play either," was the unexpected reply.

A SURE ATTRACTION

A committee from the fire department met with some officials of the World Wide Carnival and Side Show Company to think up some publicity stunt to draw the public to the coming spectacular and marvelous exhibition.

Plan after plan that was presented by the local committee met with disapproval by the carnival men.

Somewhat sarcastically, a member of the committee asked:

"How about having a woman in Nature's garb ride a white horse down the avenue?"

"Fine. That's just the thing," said the carnival official in an enthusiastic tone. "I haven't seen a white horse in a long time."

HE KNEW HER

With the arrival of warmer weather, the boys spent the evening by tilting back their chairs in front of the fire house and watch the people pass by.

A very atractive girl passed in review. One nodded.

"Do you know that girl" he was asked.

"Oh, just a nodding acquaintance."

"What do you mean, nodding?"

"Nodding doing."

WOULDN'T WORK

Spring means more than daffodils to some. It often means the first symptoms of love or the re-kindling of an old romance. That is why Tom Gerrity was up in the dormitory gazing at the ceiling with a far-away expression in his eyes.

"Why the sad expression?" asked the one who occupied the next cot.

"I bought one of those books called 'How to Make Love,' and now I don't know what to do."

"Well, can't you read it?"

"Sure. It says to take the lady's hand, look into her eyes and say, 'I love you, Beatrice.'"

"Well?"

"My girl's name is Lizzie."

A MUTUAL AGREEMENT

A Chinese cook and general utility man was hired for the suburban fire house. Each man at the station contributed something towards the salary. When the applicant called he was asked:

"What is your name?"

"Chong Fing Wook," was the reply.

"That's too long," said the officer, "I'll call you John."

The Chinese visitor lowered his head as if in agreement. And then he asked, "What's your name?"

The officer said proudly, "My name is Albert de la Mar."

"Too long," was the Chinese's comment. "I call you Charlie."

SUCH IS LIFE

At the annual field day, Mrs. Upsall won the rolling-pin-throwing contest. She threw the pin sixty-seven feet. The hundred yard dash for married men was won by Mr. Upsall.

NOT CLEAR

While the squad was getting the house into a presentable condition, prior to inspection by the battalion officer, the lieutenant called to one firemen to note how much gasoline there was in his car.

He looked.

"It points to half. I don't know whether it means half full or half empty."

"Shall we go to the fire sale?"

"Nay! I have no wish to buy a fire."

PREFERRED POSITION

For the second time, Centertown's representative to the fire school secured a record that none desired. When the fireman returned to his department the chief called him into his office.

"I near that you are always at the bottom of the class. Can't you ever get another place?"

"I'm sorry, sir. All the other places are taken."

Some fire companies never have any luck. The siren always blows during the crap games.

ONE WAY OUT

The sharp shrill of the oncoming apparatus was a warning for all motorists to pull up to the curb and wait until the apparatus went by. However, one lady, who had not had much experience with the car, and who became excited, crashed into a pole and bent one fender. It worried her.

"Can you fix this fender so my husband won't know it was bent?" she inquired of the garage mechanic.

The mechanic looked at the bent fender and said:

"No, lady, I can't. But I tell you what I can do. I can fix it up so that in a few days you can ask your husband how he bent it."

WAIT A MINIT, JIM! WE AINT GOIN' TO NO FIRE WITHOUT TERBACCY! GO ON BACK TO THE STATION!
HEY, CAP! THEY AINT NO SMOKES NER CHEWIN' IN THE BOX!

—Drawing by "Art" Espey

No Smokes, No Work, or Words to That Effect

Firemen in a Pennsylvania community discovered some new accessories with which to burden the overloaded fire apparatus. Apparatus in that community will be required to carry chewing tobacco and cigarettes as part of the regular fire equipment. At a large fire recently, the firemen were greatly handicapped because their supply of tobacco and cigarettes was exhausted Prohibitionists may point to this as one of the benefits of a country free from hard drinks. It is not hard to recall the days when beer was carried in some chemical tanks.

Pumpers in Fire Fighting

(*Continued from page 270*)

manding officer orders water turned on the line, which is advanced to the seat of the fire.

Advantage of Equipment of Pumper and Separate Hose Wagon

In some cities the department immediately charges the 2½-inch line up to the pumper, where a hose shut-off is clamped on the line. This method saves considerable time in case water is needed from the large line, but in case the fire is extinguished without using the line, it necessitates draining the line and drying the 2½-inch hose when the company returns to quarters. In cities where the pressure on the distribution system is from 30 to 50 pounds, it is customary for the pumper to lay its 2½-inch line, pulling off several extra sections in front of the fire, and immediately return the pumper to the hydrant and connect the suction hose so that water can be delivered into the 2½-inch line if needed. Under such conditions it will be seen that the chemical line from the large tank cannot be utilized when the pumper is stationed at the hydrant. For this reason it is desirable to have at least one-half of the engine companies responding into the high-valve districts equipped with two pieces of apparatus, one a pumper, and the other, a hose wagon with a chemical tank. This arrangement not only enables the company to use the large chemical tank when needed, but also facilitates laying the lines, which is of considerable importance today on account of parking conditions and congested traffic, and an added advantage is that in case of a large fire additional hose lines can be laid, as not only does the hose wagon carry 1,000 feet of hose, but the hose body on the pumper is also loaded with an equal amount.

Considerable difficulty has been encountered in cities and towns where fire departments have been accustomed to use direct hydrant hose streams when the departments were equipped with pumpers. The commanding officers appeared in many cases to be under the mistaken impression that the pumpers were only needed in cases where it was necessary to call second- and third-alarm apparatus. As a matter of fact, many fires have gotten beyond control on account of weak hose streams taken direct from hydrants when pumpers were standing idle, not connected to the hydrant.

Hard Suction Should Be Used

Pumpers should always be equipped with hard suction and soft suctions should not be provided, for, if they are, they will be used. The soft suction is open to the following objections: If the hydrant to which the pumper attaches happens to be a small hydrant with high friction loss, or on a dead end of a small main, the water which can be obtained may not be sufficient to supply the pumper, and, therefore, the soft suction will collapse. Soft suction should not be used even where normal pressures are reasonably high, for in case the fire develops so that a number of good streams have to be used, the pressure on the mains is, in many instances, so depleted that the soft suction will collapse. One instance comes to mind where a main failed during a large fire when about a dozen steam fire engines were working with soft suctions. All had to shut down in order that hard suctions could be put on in order to obtain water at draft. Such delays are dangerous. The claim is made for these suctions that the pumper can be attached and brought into action more promptly than if hard suctions are used. This statement cannot be borne out by the facts as the time required to attach a hard suction to a hydrant and pumper is not the limiting fractional feature of the maneuver of getting a stream on the fire, except, perhaps in the case of a company working on a fire which is burning in a pile of rubbish, in an open shed, or where no entrance or particular approach to the fire is required.

Instructing Drivers and Operators

Drivers and operators of pumpers in the larger departments are instructed in their duties and the operation of the pumpers by the master mechanics of the department. In the smaller departments the manufacturer of the pumpers sold to the town sends a service engineer to the town with the pumper. This man stays until several members of the department become acquainted with the method of operating the piece of apparatus. They have generally been selected by the chief of the department before the Underwriters' Acceptance Test is made, and are present at the test. They, therefore, become familiar with the speeds of the engine under varying operating conditions, and, in most cases, know the hose and nozzle layouts required to get the required capacities under varying pressures.

In some cities the master mechanics have placed brass plates on the side of the pumper body giving the pressures which the operator should carry when he goes into service at a fire for various lengths of hose lines with various nozzle tip sizes. The pressures designated are not so high that the men on the line will have difficulty holding it, and the pressure is raised by direction of the commanding officer if stiffer streams are needed.

Officers and Operators Should Know Hydraulics

The commanding officers, including company officers, as well as the operators of the pumpers should have a general knowledge of the hydraulics of fire streams. The subject is not at all difficult when once a fireman gets interested in the problems. In some of our larger departments all first-grade firemen can solve ordinary problems involving pressures, length of lines, elevations and nozzle sizes with rapidity and efficiency.

Augmenting the Sprinkler Equipment

Pumpers should be utilized when opportunity presents itself to reinforce the supply of fire protection equipment. Each automatic sprinkler equipment is provided with a fire department connection so that the pumpers can deliver water directly into the system, even though the service connection to the street mains is shut off, the service pump out of commission, or the tank empty.

Most of the larger city departments have among other department rules one which requires some first-alarm company to stretch a line and connect to fire department connection of the sprinkler equipment, if one be installed. The practice as to which company should do this is not uniform, but it is the opinion of the writer, supported by experience gained by observing the operations of many city departments, that the making of this connection should be delegated to the second company which arrives, for if this work were allotted to the first-due company, there would be a conflict of the rules in many cases as it is the duty of the first-due company to ascertain the seat of the fire and stretch in and extinguish it, irrespective of whether or not a sprinkler equipment be installed.

If the fire is not being held in check by the normal supply of the sprinkler equipment, it should be augmented immediately with the single line which has been connected to the steamer connection and an additional 2½-inch line stretched and connected to the second outlet of the steamer connection. Sprinklers ordinarily either completely extinguish or hold the fire in check; however, occasionally owing to structural changes which have been made in the building after the installation of the equipment, or due to the improper warehousing of stock, they are unable to hold the fire. In such cases considerable quantities of water may be needed and if the normal supply is inadequate, the supply should be further augmented by attaching siamese connections to each of the two outlets on the steamer connection and stretching in two additional lines of 2½- or 3-inch hose so that four lines will be available to deliver water into the equipment. Pressures on these lines may be carried as high as 200 pounds as there is bound to be considerable loss through the 4-inch pipe between the steamer connection and the 6- or 8-inch sprinkler riser.

The Use of Building Standpipes

Many older buildings are equipped with dry, outside standpipes installed in connection with the fire escapes or concealed in the pilasters. These are equipped with a fire department connection at their base and their only method of supply is from pumpers. Two and one-half inch outlets are provided on each floor, generally near the window openings, and the standpipe ordinarily extends over the parapet at the roof and has a 2½-inch hose connection at its terminus.

These standpipes have two uses. First, if the fire be on one of the upper floors of a building, the fire company can take up one 50-foot length of 2½-inch hose and attach this to the standpipe and get water on the fire in a much shorter time than would be required to raise a line from the ground: Second, considerable use has been made of such standpipes to supply hose lines directed on buildings adjacent or across the street. More powerful streams are required for this work than for inside work and higher pressures are needed on the pumpers.

Chief Should Know Water Distribution System

In the larger cities the total pumper capacity is in almost all cases adequate to combat a large fire; however, in the

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smaller cities and towns, a large fire taxes the capacity of the department to its utmost. For this reason the chief of the department and all of its members should know how to utilize the few pumpers which they have so that their ultimate total capacity can be secured. A knowledge of the water distribution system is of first importance so that a large pumper will not be attached to a hydrant which may be on a dead end or a small main, and, therefore, not be able to deliver the capacity of the pumper. The hydrants closest to the fire should be used, provided the safety of the apparatus is not endangered. Sufficient hose lines should be laid from each hydrant and 3-inch hose, if provided, should be utilized.

Lines from pumpers at any considerable distance from the fire, that is over 200 or 300 feet, should eventually be siamesed in order to further cut down the friction loss and thus enable the pumper to deliver as nearly its rated capacity as possible. For example, if a pumper is taking suction from a hydrant with the compound gage showing 41 pounds pressure and discharging through a single 1½-inch line 600 feet long, having 1¼-inch tip, it will be necessary to carry 241 pounds pressure on the discharge side of the pump. This is equivalent to operating the pump under 200 pounds net pressure, which has cut its capacity in two, in order to furnish a fairly effective ground stream having 60 pounds pressure through this size tip, and this would result in limiting this pumper to furnishing this single stream, provided it was a 750-gallon pumper.

If a second 2½-inch line 600 feet long is laid from the pumper and siamesed into the nozzle, the discharge pressure required would be only 111 pounds, with the result that the pumper will be operating under a net pressure of only 70 pounds, and this will enable a second line, similar in character to the first, to be taken from the pumper, provided the second line is also siamesed.

If in the first instance a 600-foot line of 3-inch hose had been utilized, a discharge pressure of only 132 pounds would have been required, which would result in the pumper's operating under a net pressure of 91 pounds, and a second 3-inch line could have been laid from this pumper to supply a second 1¼-inch tip.

Pumpers Should Not Be Used to Dewater Cellars

After the fire is over, as well as during floods, the fire department is frequently called upon to dewater cellars. The pumpers should never be used for such service, as the grit in the turbid water is bound to abrase the moving parts or valves of the pumpers to such an extent that the slip will become excessive, which results in materially reducing the capacity and efficiency of the pumper. Debris can easily be drawn through the suction hose into the screens of the pump, which will become clogged or, perhaps, it may pass through the screen and produce a total failure of the pump. Each department should be equipped with an ejector which can be attached to stiff suction hose, and the ejector should be operated by a 2½-inch line which the pumper can supply, taking suction from a nearby hydrant.

(Excerpts from a paper read before the annual convention of the Indiana Section, American Water Works Association at Indianapolis.)

Detroit Wins Fire Prevention Prize

The 1928 grand prize in the national fire waste contest conducted by the Chamber of Commerce of the United States and the National Fire Waste Council, was awarded to Detroit. There were prizes awarded in each of five classifications.

This year 374 cities participated—the largest number since the contest was inaugurated. The per capita loss in the contest cities was $2.35 as compared with $2.70 for 1927, $3.06 in 1926 and $3.77 in 1925. However, there has been an increase in the number of fires. The life hazard still continues to be an important one although the number of persons killed by fire has been reduced seven per cent.

The following tabulation gives the year's winners, together with honor cities, designated because of their excellent records:

CLASS 1—Over 500,000 population. Winner Detroit. Honor cities, Philadelphia, Pittsburgh, Milwaukee, Los Angeles, Washington, D. C., Cleveland, Buffalo, Baltimore and San Francisco.

CLASS 2—100,000-500,000 population. Winner Erie, Pa. Honor cities, Cincinnati, Portland, Oregon; Rochester, N. Y.; Seattle, Wash.; El Paso, Grand Rapids, Utica, N. Y.; Hartford, Conn.; Long Beach, Cal.; New Orleans, La., and Akron, Ohio.

CLASS 3—50,000-100,000 population. Winner, Lakewood, Ohio. Honor cities, Lansing, Mich.; Hammond, Ind.; Greensboro, N. C.; Huntington, W. Va.; Fresno, Cal.; Pasadena, Cal.; Columbia, S. C.; Chelsea, Mass.; Bethlehem, Pa.; and Portsmouth, Ohio.

CLASS 4—20,000-50,000 population. Winner, Owensboro, Ky. Honor cities, Durham, N. C.; Watertown, N. Y.; Richmond, Cal.; Asheville, N. C.; Fort Dodge, Iowa; Butler, Pa.; Riverside, Cal.; Baton Rouge, La.; Waterloo, Iowa; Norristown, Pa., and Moline, Ill.

CLASS 5—Under 20,000 population. Winner, Albany, Ga. Honor cities, Fremont, Mich.; Perryton, Texas; Pottstown, Pa.; Billings, Mont.; Logan, Utah; Redondo Beach, Cal.; Ardmore, Pa.; Marietta, Ohio; Weston, W. Va., and Norwich, N. Y.

WESTCHESTER CHIEFS DISCUSS MUTUAL FIRE AID SYSTEM

Telephone Tie Up of Cities Suggested by 'Phone Company by Means of Automatic Typewriters — Other Matters Discussed

THE third meeting of the Fire Chiefs Emergency Plan of Westchester County, N. Y., was held at Fire Headquarters, Yonkers, N. Y., at 8:30 p. m., March 20. There were fifteen chiefs and others present, representing twelve cities of the county. Chief George S. Towle, of the Larchmont, N. Y., Fire Department, President of the Plan, presided. The object of this Plan, which was organized at a meeting in New Rochelle, last January, is the formulation of an idea for systematic mutual assistance between the fire departments of the county.

The first matter under discussion was the report of a committee consisting of Chiefs Jones (Chairman), Mulcahey and Brennan, formed to confer with Chief Kenlon, of New York City, as regards the cooperation of that department with the adjacent Westchester County cities. Following the report, the members discussed the matter in all of its phases, including the very important subject of the various forms of hydrant and hose couplings in use in the cities involved, and their relation to the question of assistance.

The second matter of importance was the proposed system of telephone accord, as arranged by the New York Telephone Company. The chair called upon Mr. Gay of the Telephone Company, and he explained the system of telephone tie-up for police and fire departments throughout the county. He said that in case of the necessity for a general alarm, all of the cities and towns connected with the system would at once receive the message on the typewriter. Where the call was for only certain fire departments needed for assistance the message would apply only to those cities.

The systems of mutual assistance in use by the Egyptian Fire Fighters' Association, the Three M Firemen's Association, and the Community Firemen's Association, all of the state of Illinois, and the system in use in Washington Township, Alameda County, Cal., were described by Robert H. Lockwood, Editor, of FIRE ENGINEERING, letters on the subject from the various presidents of the associations being read. A vote of thanks was tendered to him at the conclusion of the address.

It was decided to hold the next meeting at the White Plains Fire Headquarters, and the thanks of the Plan was given to Chief A. T. Griffin, of that city for his invitation. The date decided upon is Wedensday, April 24.

The chair appointed as an Executive Committee Chiefs Lemon, Mulcahey, Steuhl, Griffin, Sullivan, Brennan and Burkitt. Secretary Riviere was made Secretary-Treasurer.

Those present at the meeting were: Chiefs George S. Towle, (Chairman), Larchmont; Abbott Griffin, White Plains, Walter Jones, New Rochelle; John Brennan, Pelham Manor; George Burkitt, Portchester; R. J. Lemon, Mamaroneck; and Melville Haines, Hastings; Herbert Bennett, Fire Commissioner of Harrison; First Assistant Chief Limekiller, Hastings; Second Assistant Chief Brunner, Harrison, Deputy Chief Peterson, Larchmont, and Lieut. E. Riviere (Secretary), Larchmont. The guests present were: Police Captain Moore, Mamaroneck; Mr. Gay, New York Telephone Company, and Robert H. Lockwood, Editor, FIRE ENGINEERING.

Huebotter Joins Waukesha Motors

H. A. Huebotter, well known to automotive and Diesel engineers, has recently joined the technical staff of the Waukesha Motor Company, Waukesha, Wisconsin. He comes to the Waukesha Motor Company from the Butler Manufacturing Company, Indianapolis, Indiana, where he was chief engineer.

Mr. Huebotter has been engaged in both practical and theoretical research for a number of years. From the time of his graduation from Purdue University in 1912, he has devoted his time to automotive research, design and production. Extensive opportunities for research were available to Mr. Huebotter when, for several years at Purdue, he conducted classroom instruction and worked out various experimental problems.

He is a member of the Society of Automotive Engineers, and is the author of "Mechanics of the Gasoline Engine."

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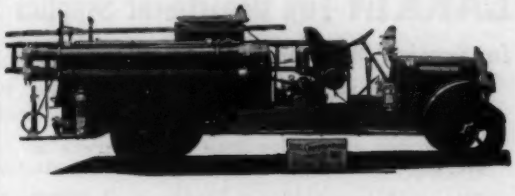

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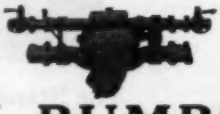

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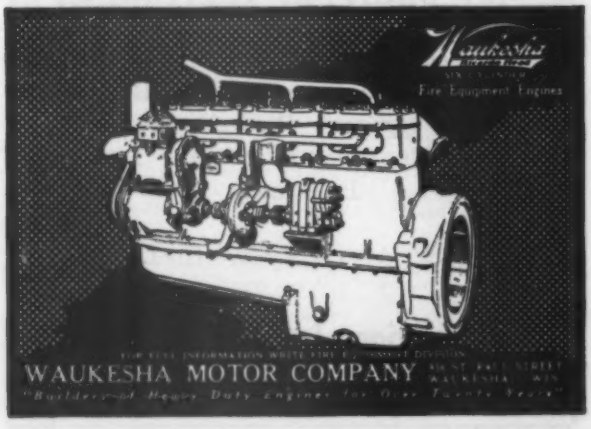

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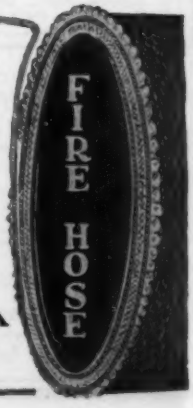

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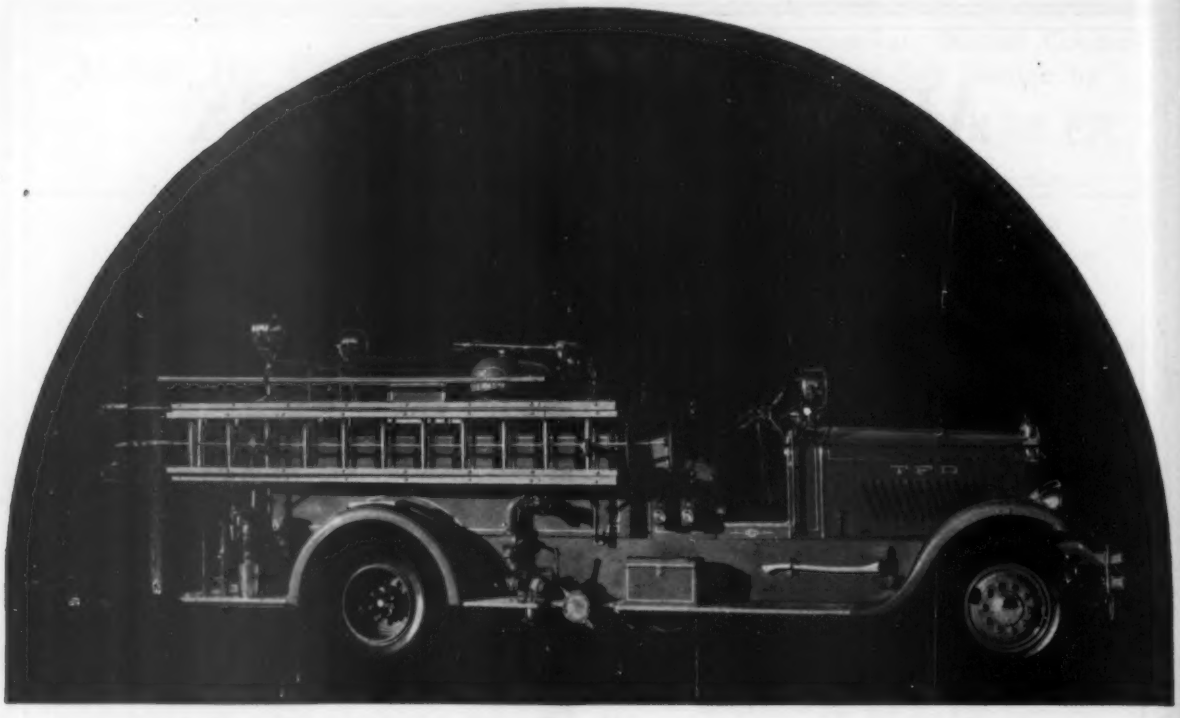
They are ready and anxious to serve you courteously in every way possible. Be sure to write them for complete information when considering new purchases—and place your orders with them.

They are helping us make the paper better by their advertising. You can help them and help us and help yourself by giving them your business. Let's all pull together! All will benefit.

The Publishers



Four-Wheel Brakes . . . . a Mack *Improvement*, too

MACK was first to apply four-wheel brakes to standard fire apparatus; and today Mack builds its fire apparatus with a modern, Mack designed, four-wheel brake system.

Internal mechanical brakes, completely enclosed are both water and dirt-proof.

A new front axle designed especially for use with four-wheel brakes is furnished.

The brake hook-up incorporates correct principles of design and operates equally well under all conditions. It is equipped with vacuum booster attachment.

Mack builds today the fire apparatus of tomorrow

For control in traffic as well as in present day fire fighting conditions the latest types of Mack Fire Apparatus are provided with every modern feature, made possible only by the financial resources and engineering facilities of a great manufacturing organization. Write for detailed information.

Fire Engine Division
25 Broadway
New York, N. Y.

Mack Trucks, Inc.

TRUCKS · BUSES · FIRE APPARATUS · RAIL CARS · LOCOMOTIVES

FIRE WILL NOT WAIT

For first aid attack—
FOAMITE Chemical Equipment

The fire may be in a pile of rubbish or in a pool of blazing gasoline. It may be on the ceiling or walls. But no matter *where* it is or *what kind of material* is burning, the small fire is doomed when a FOAMITE Chemical Tank goes into action.

FOAMITE "HS" or "HD" tanks, mounted on your apparatus, smother fire under an air-tight blanket of *Firefoam*. *Firefoam* puts the fire out with minimum damage. There is none of the soaking and dripping that result when water or liquid chemicals are used. In inflammable liquids, *Firefoam* kills the fire that water would only tend to spread.

The "HS" single tank unit discharges 300 gallons of *Firefoam* in two minutes at an effective range of 45 to 55 feet horizontally and about 35 feet vertically.

The "HD" double tank unit discharges 600 gallons of *Firefoam* in about four minutes at the same range.

"First Aid Attack" is a folder that describes these units and their use. A copy will be sent on request. Write Dept. A30, American-LaFrance and Foamite Corporation, Engineers and Manufacturers, Elmira, N. Y

AMERICAN-LAFRANCE AND FOAMITE PROTECTION

A Complete Engineering Service

For Extinguishing Fires

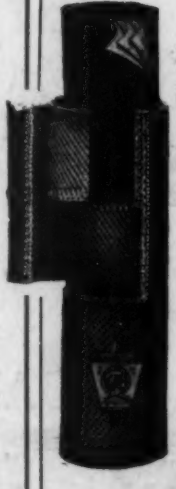
It will help if you will mention FIRE ENGINEERING *when writing advertisers.*

FABRIC

Wax and Para Gum Treated Rubber Lined Cotton Fire Hose

WAX and Para Gum Treated Fire Hose absorbs no moisture and is therefore mildew and rot proof. It is made non-absorptive by treating every strand of cotton that enters into its construction with a mixture of wax and Para gum.

This mixture thoroughly impregnates each strand of cotton, and the fabric of the finished hose is thoroughly waterproofed. And this waterproofed hose is easier to handle at fires.



Wax and Para Gum Treated Hose can be stored in damp places without injury to fabric; it can be used in freezing weather without injury; it alone can be freed of ice without trouble.

There are many other points of importance you should know about and they are all outlined in our little booklet: "Fire Hose and How It Is Made."

A copy of this booklet will be sent you upon request.

Fabric Fire Hose Company

9-15 Park Place, New York

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